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ABSTRACT

Intended as a resource for individuals wishing to evaluate alcohol abuse education programs, this handbook, one of a series of seven, provides a collection of measuring devices that can improve the quality of such evaluations. Chapter 1 introduces the handbook's contents and outlines evaluation related issues specific to alcohol abuse education programs. 2 introduces the key operations involved in program evaluation, emphasizing the role of assessment instruments in the gathering of information needed for defensible evaluations. Chapter 3 contains the measuring tools designed to be used in the evaluation and design of alcohol education programs. These measures deal with behavior, knowledge, skills, and affective outcomes. Each measure is introduced by a brief description of the purpose of the assessment instrument, as well as procedures for administering, scoring, and analyzing the resulting data. Chapter 4 describes how technical appraisals of the handbook's measures can be carried out. The three appendices contain amplified content descriptors for updating the various measures, an explanation of informed consent procedures, and an annotated bibliography. (JD)

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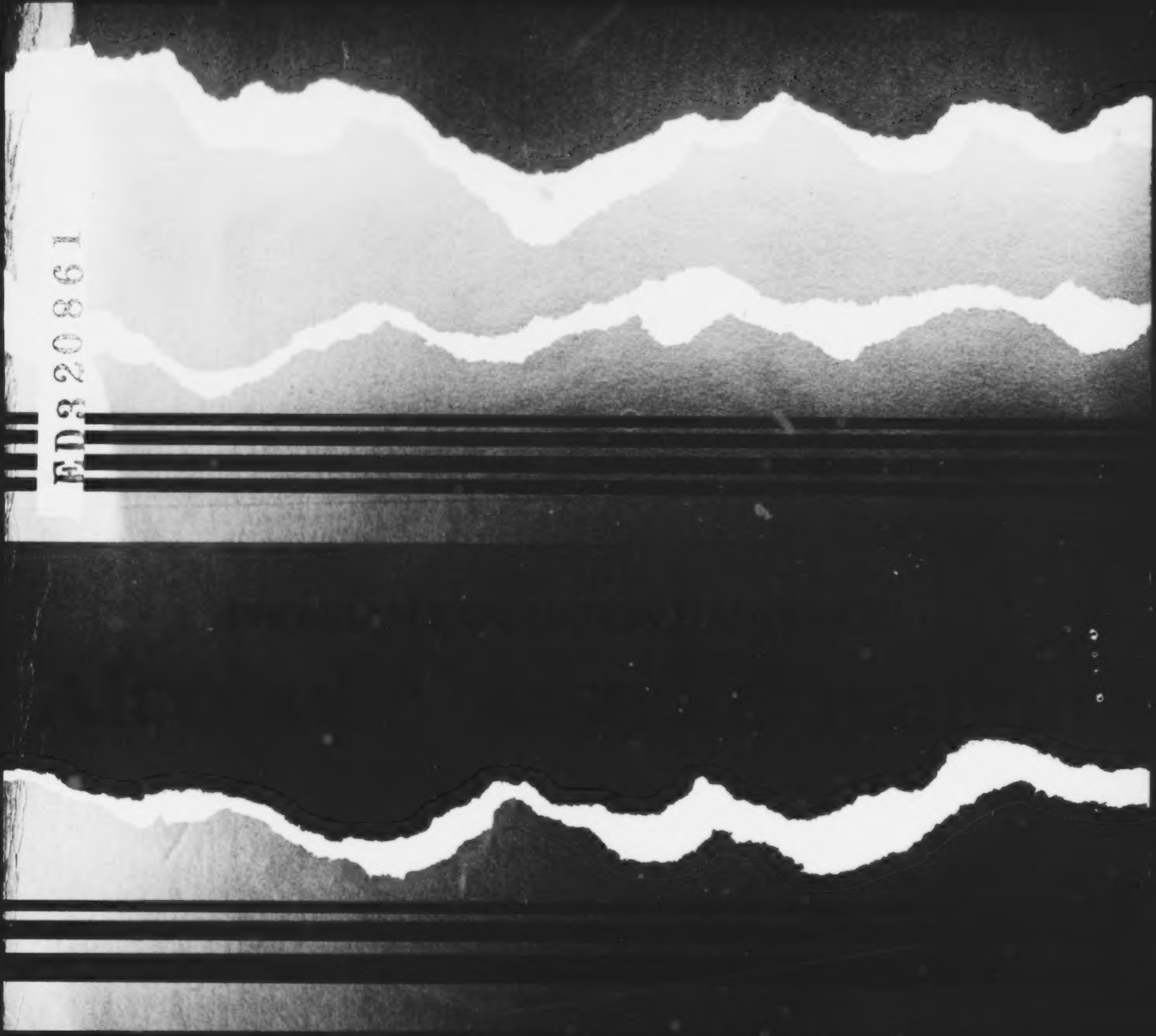

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PROGRAM EVALUATION HANDBOOK

ALCOHOL ABUSE EDUCATION

Prepared for

The Center for Health Promotion and Education
United States Centers for Disease Control

The Office of Disease Prevention and Health Promotion
Office of the Assistant Secretary for Health
United States Department of Health and Human Services

by

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1988

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Preface

In recent years, health educators have increasingly recognized that systematic evaluation can help them appraise and improve their programs. For this potential to be realized, however, effective mechanisms for gathering relevant data are required. In the past, critical information about a program's effects was not collected in some instances because suitable measures for gauging those effects were lacking. The purpose of this handbook is to rectify, at least in part, this deficiency in the evaluation of health education programs dealing with alcohol abuse education.

This book is one of seven health education evaluation handbooks resulting from a project jointly initiated in 1980 by the United States Centers for Disease Control (CDC) and the Office of Disease Prevention and Health Promotion (ODPHP) of the Office of the Assistant Secretary for Health. The handbook is not intended to be prescriptive or all-inclusive. Those who evaluate alcohol abuse education programs should regard the handbook as only a resource, that is, a collection of assessment tools that may be of use in program evaluation. The extent to which the handbook will actually be useful depends chiefly on the extent to which it contains assessment tools that correspond to the evaluation needs of a particular alcohol abuse education program.

Handbook Development

This handbook has been created by IOX Assessment Associates (IOX), selected competitively on the basis of responses to a governmentally issued request for proposals. IOX was to collect and develop program evaluation measures for critical behavioral, knowledge, skill, and affective outcomes in the area of alcohol abuse education. Three panels of experts played prominent roles in the creation of this handbook. A **Handbook-Development Panel**, consisting of seven experts familiar with alcohol abuse education programs or their evaluation, guided the initial development of the handbook. The Handbook-Development Panel identified important outcomes for alcohol abuse education programs. IOX staff, drawing on the advice of panelists, then developed assessment instruments to assess panel-identified program outcomes. The names and affiliations of the Alcohol Abuse Education Handbook-Development Panelists are provided on the following page.

Handbook-Development Panel

Dr. Louis Bozzetti
National Committee for the
Prevention of Alcoholism
and Drug Dependency
Washington, D.C.

Dr. Nicholas Braucht
Department of Psychology
University of Denver
Denver, Colorado

Dr. Wells Hively
Central Western Regional
Educational Laboratory
St. Louis, Missouri

Dr. Lee Jessor
Institute of Behavioral
Sciences
University of Colorado
Boulder, Colorado

Dr. Snehendu Kar
School of Public Health
University of California Los Angeles
Los Angeles, California

Dr. Lloyd Kolbe
Center for Health Promotion and
Education
Atlanta, Georgia

Dr. Eric Schaps
Pacific Institute for Research and
Evaluation
Lafayette, California

The Handbook-Development Panel met at the beginning of the project in order to isolate the chief outcomes that alcohol abuse education programs could reasonably be expected to promote. Preliminary statements reflecting these outcomes were identified by the panelists. These preliminary outcome statements were refined by IOX staff and mailed to the panelists and other interested specialists, all of whom rated the importance of each statement. The list of high-priority outcomes that resulted was used to guide the selection and development of the original handbook's measures.

All newly developed measures were mailed to the panelists for review. In addition, all of these measures were tried out with small groups of respondents. The measures were revised based on the informal tryouts and the panelists' review comments. All of the new measures were also reviewed by IOX staff in an effort to eliminate any potential ethnic, gender, religious, or socioeconomic bias.

A completed version of the alcohol abuse education handbook was delivered to the government in 1983. Several thousand copies of the handbook were released by CDC and ODPHP to health educators throughout the nation.

Handbook Revision

Subsequent to the initial distribution of the handbook, CDC issued, in concert with ODPHP, a second request for proposals which led to the comprehensive revision of the existing alcohol abuse education handbook. To guide the review and revision of the alcohol abuse education handbook, a **Handbook-Revision Panel** was constituted. Members of the panel were selected because of their dual expertise in (a) the field of alcohol abuse education and (b) measurement of the outcomes sought by alcohol abuse education programs. Members of the Handbook-Revision Panel and their affiliations are listed below:

Handbook-Revision Panel

Dr. Jonathan Fielding
U.S. Corporate Health Management
and University of California
Los Angeles, California

Dr. Michael Goodstadt
Addiction Research Foundation
Toronto, Canada

Dr. John Horn
Department of Psychology
University of Denver
Denver, Colorado

Dr. Norman Kurtz
Heller Graduate School
Brandeis University
Waltham, Massachusetts

Dr. Alex Wagenaar
The University of Michigan
Transportation Research Institute
Ann Arbor, Michigan

Dr. Lawrence Wallack
Prevention Research Center
University of California Berkeley
Berkeley, California

The Handbook-Revision Panel met on two occasions. In these meetings, panelists reviewed the contents of the initial version of the alcohol abuse education handbook, particularly its measures, and suggested deletions, modifications, or additions. Panelists also provided guidance regarding ways of making the handbook more usable to practitioners. During both of these meetings, the panelists were attentive to the accuracy of the handbook's contents. Considerable content, in the measures as well as the introductory materials, was revised or deleted on the basis of panelists' suggestions.

Overall Guidance

A third panel, the **Project Advisory Panel**, provided overall guidance to IOX staff during the final three years of the project. These individuals offered technical counsel and strategic advice during the revision of all handbooks. Members and affiliations of the Project Advisory Panel are listed on the following page.

Project Advisory Panel

Dr. Peter A. Cortese
California State University
Long Beach, California

Dr. Lawrence W. Green
Henry J. Kaiser Family Foundation
Menlo Park, California

Dr. Jonathan E. Fielding
U.S. Corporate Health Management
and University of California
Los Angeles, California

Dr. William L. Haskell
Stanford University
Stanford, California

Acknowledgments

The project that led to the creation of this handbook was funded by the CDC and ODPHP. Dr. Walter J. Gunn of CDC conceptualized the project and supplied technical guidance throughout its first phase. During this time, Dr. Diane Orenstein of CDC as well as Dr. Donald Iverson and Dr. Patricia Mullen, both of ODPHP, served as project officers.

During the project's second phase, that is, the revision of the handbook, Dr. Orenstein of CDC continued to serve as project officer along with Dr. Joel Kavet, Dr. Gregory Christenson and Mr. James Harrell of ODPHP.

As the handbook progressed, numerous health educators throughout the nation offered their insights regarding the handbook's contents. Without their expert assistance, development of this volume would have been impossible.

IOX Assessment Associates
July, 1988

CHAPTER ONE

A Resource for the Evaluation of Alcohol Abuse Prevention Programs

A Resource for the Evaluation of Alcohol Abuse Education Programs

This handbook is intended to help those individuals who wish to evaluate health education programs dealing with alcohol abuse. More specifically, the handbook provides a series of measuring devices that, if selected and used judiciously, can improve the quality of such evaluations. As a consequence, not only will the technical quality of the program evaluation be improved, but any program-related decisions based on the evaluation's results are apt to be more defensible.

An Evidence-Oriented Era

In recent years, educators have experienced substantially increased pressures to produce evidence that their programs are functioning effectively. In contrast to an earlier era when it was widely thought that most educational programs were worth the money they cost, today's educators find that they are constantly called on to justify the effectiveness of their programs.

The kinds of evidence that health educators have been required to assemble regarding program effectiveness have, almost without exception, involved the use of various kinds of assessment instruments. Consonant with that requirement, this handbook contains numerous tests and inventories designed to secure the evidence needed to judge the effectiveness of alcohol abuse education programs. The handbook's measuring instruments were created specifically to assess important goals of the most common types of alcohol abuse education programs offered for adults (in industrial or clinical settings) and for children (in school-related programs).

The handbook, accordingly, makes available to those who operate alcohol abuse education programs the assessment tools by which the effectiveness of such programs can be determined. The evidence of program effectiveness currently being demanded of alcohol abuse education personnel can, therefore, be provided by appropriate use of the handbook's assessment instruments. Moreover, as will be indicated shortly, appropriate use of the handbook's numerous assessment devices can substantially improve the *design* of alcohol abuse education programs.

Measurement and Program Design

Historically, assessment devices have been thought of as instruments to be used *after* a program was concluded. Teachers, for example, have traditionally administered tests *after* instruction was over in order to grade students. However, even though assessment instruments have often been post-instruction creations of instructors, such instruments can make important – often overlooked – contributions to the original design of an instructional program. Properly developed assessment tools, in fact, can contribute to program design in two significant ways.

First, because assessment instruments are typically intended to measure outcomes of interest, such assessment instruments provide program personnel with a range of potential outcomes. An increased range of possible program outcomes generally leads to the *selection of more defensible outcomes* for health education programs. To illustrate, there may be an assessment instrument dealing with an attitudinal dimension that, were it not for the measuring instrument's availability, might have been overlooked by the program staff. Stimulated by the assessment tool's availability, however, the program staff can add the attitudinal dimension to the program's targeted outcomes.

A second program-design dividend of properly constructed assessment tools is that they *clarify intended program outcomes* and, thereby, make possible the provision of more on-target program activities than would have been the case had such clarification not been present. To illustrate, suppose that program personnel intend to feature in their evaluation an assessment device focused on the knowledge of the physical effects of alcohol abuse. By becoming familiar with the composition of that assessment tool, the program staff can be sure to incorporate critical facts about those effects in their instructional program. Provision of appropriate instructional practice for participants need not reflect "teaching to the test" in the negative sense that instructors coach students for specific test items. Instead, providing relevant knowledge so that program participants attain the program's intended outcomes constitutes an efficient and effective, research-supported form of instruction.

To review, then, the measuring instruments provided in this handbook are intended to assist those who design and those who evaluate alcohol abuse education programs. With respect to program evaluation, the measures will yield evidence by which to improve programs as well as determine program effectiveness. With respect to program design, the measures provide a menu of potential program options and, once having been selected, enhanced clarity regarding the nature of the outcome(s) sought.

What the Handbook Contains

There are several key ingredients in this handbook. It should, therefore, prove helpful to readers if the handbook's major sections are presented. Briefly, then, here is a description of the handbook's major components:

Introductory information. In Chapter One, an introduction to the handbook is provided. Because the handbook is intended to be used with alcohol abuse education programs, the chapter concludes with a brief discussion of evaluation-related issues specific to health education programs dealing with alcohol abuse education.

Program evaluation essentials. Although a number of people who use this handbook will already be familiar with the nature of program evaluation, many handbook users will not be well versed in the conduct of program evaluations. Accordingly, in Chapter Two, an introduction is provided to the key operations involved in program evaluation. Although space limitations preclude a detailed exposition of all aspects of program evaluation, emphasis is given to the role that assessment instruments play in the gathering of information needed for defensible evaluations.

Assessment instruments. Chapter Three contains the handbook's most important components, namely, the measuring tools designed to be used in the evaluation and design of alcohol abuse education programs. These measures deal with behavior, knowledge, skill, and affective outcomes. *Behavior* measures focus on actual behaviors of program participants. *Knowledge* measures are concerned with participant mastery of a defined set of information. *Skill* measures deal with cognitive, that is, intellectual, competencies to be mastered by program participants. Finally, *affective* measures assess participants' attitudes and values.

Each measure is introduced by a brief description of the purpose of the assessment instrument, as well as procedures for administering, scoring, and analyzing the resulting data. All measures have been provided on detachable pages. At the beginning of Chapter Three, an overview description of the chapter's measures is provided to facilitate the selection of measures.

Local measure appraisal. Although the measures contained in this handbook have been created with considerable care and were pilot tested in small-scale tryouts, the measures have not yet been subjected to a formal empirical appraisal of their technical adequacy. Thus, in Chapter Four, a description is provided of how such technical appraisals of the handbook's measures can be carried out.

Annotated bibliography. Because evaluators and designers of alcohol abuse education programs may wish to consult additional sources regarding program design and program evaluation, an annotated bibliography is provided in Appendix C to facilitate the handbook user's selection of such materials.

Amplified content descriptors. The information eligible for inclusion in the knowledge measures is provided in Appendix A as amplified content descriptors. Additional content that can be used for the generation of new items is also presented. However, these descriptors are not exhaustive accounts of alcohol abuse education content.

How to Use the Handbook

The particular ways in which the handbook is used will vary from setting to setting and from user to user. For instance, if a handbook user is relatively unfamiliar with the core notions in program evaluation, then a thorough reading of Chapter Two's treatment of program evaluation essentials is warranted. In addition, further reading based on the evaluation-related references included in the annotated bibliography would also seem useful.

For handbook users more familiar with program evaluation, primary attention will probably be focused on Chapter Three's measures. Although use of the measures will vary from situation to situation, a common four-step usage pattern is depicted in Figure 1.1.

Note that in Step 1, the measures are used to represent a range of potential program objectives. Clearly, an expanded range of options can lead to more appropriate decisions regarding what program objectives to pursue. In Step 2, after the measures for possible program evaluation have been reviewed, one or more measures are selected for use in the evaluation of the program. In Step 3, after the program evaluation measures have been selected, the program staff studies the measures intensively to discern if there are program design implications to be drawn from the measures. In Step 4, the measures are administered using one of the evaluative data-gathering designs described in Chapter Two and scored according to the scoring directions in Chapter Three. Finally, interpretations of the results are made.

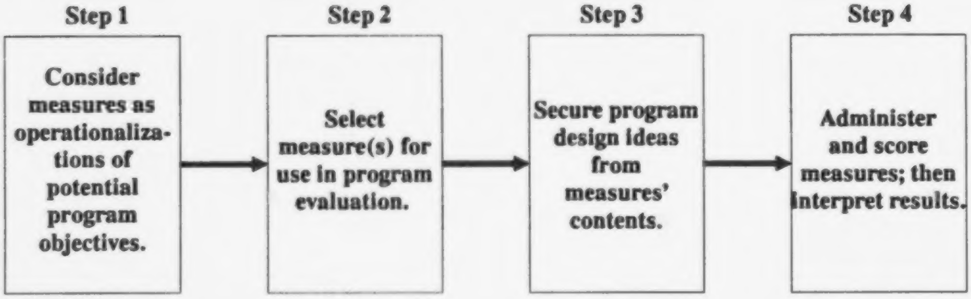
Step 1
Consider measures as operationalizations of potential program objectives.
Step 2
Select measure(s) for use in program evaluation.
Step 3
Secure program design ideas from measures' contents.
Step 4
Administer and score measures; then interpret results.

Figure 1.1: A four-step usage pattern of the handbook's measures

It is important to remember that the handbook's measures are to be used for program evaluation, not individual decision making. Thus, if one of the handbook's affective measures was used on a pretest-posttest basis, it is the *aggregation* of scores on the measure that provides us with an indication of the program's effectiveness. The measures were not designed to yield an accurate indication of an *individual* participant's status. Thus, it would be inappropriate to attempt to determine an individual participant's attitudes on the basis of the handbook's measures. The measures are relatively brief instruments designed to be administered without great intrusiveness. When the measures' scores are viewed in the aggregate, the measures can provide data of relevance to program evaluators. The data, however, should *not* be used for determining the status of individuals.

Another point related to use of the handbook's measures concerns the potential *reactivity* of certain measures, that is, the likelihood that if the measure is used *prior* to the program, the experience of completing a measure may cause participants to react differently to the program than had the measure not been administered. Reactivity is more frequently associated with affective measures rather than cognitive measures. Thus, handbook users will need to be alert to the possibility that a given measure, if administered prior to the program, will unduly sensitize participants to an aspect of the program.

To avoid such reactive effects, program personnel may need to divide participants into two subgroups so that only a portion of the participants receive any given potentially reactive measure. Such subgroups would not be given the same reactive measure both before and after the program. Rather, participants should be administered only post-program measures that they had *not* been given prior to the program. Indeed, two potentially reactive measures may be administered simultaneously under the conditions represented in Figure 1.2, where it can be seen that the pre-program performance of certain participants (one-half, for example) serves as a comparison for the post-program performance of other participants. Although a variety of data-gathering designs will be described in Chapter Two, the evaluator should employ care in using the handbook's measures so that they permit reasonable inferences regarding program effectiveness. Potential reactivity of measures should be examined when considering such designs.

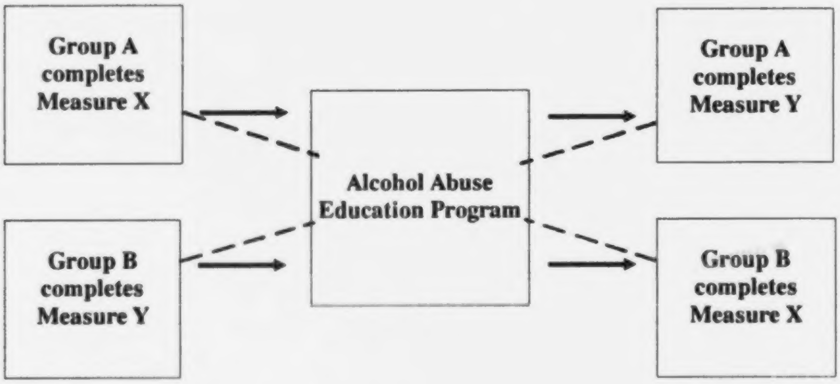
Group A completes Measure X
Group B completes Measure Y
Alcohol Abuse Education Program
Group A completes Measure Y
Group B completes Measure X

Figure 1.2: Using the handbook's measures to avoid reactive effects (Appropriate Comparisons = — — —)

Technical Quality of the Handbook's Measures

The measuring instruments to be found in Chapter Three were carefully constructed by an experienced test-development agency according to the guidance of prominent experts in the field of alcohol abuse education. All of Chapter Three's assessment devices were subjected to small-scale tryouts, revised on the basis of those tryouts, and reviewed by alcohol abuse education specialists.

At the outset of this handbook development project, it had been anticipated that all of the handbook's measuring instruments would be subjected to large-scale field tests so that substantial empirical evidence regarding the technical quality of the measures could be made available to handbook users. Unfortunately, that phase of the project could not be completed.

Thus, handbook users should be cautioned that, although the handbook's measures were developed with great care, there is currently no evidence available by which to ascertain the technical quality of the measures. Thus, handbook users must exercise caution in the use of Chapter Three's assessment instruments. In Chapter Four, as indicated earlier, a description is presented of the ways in which users of the handbook's measures, if they wish to do so, can carry out local studies regarding the technical quality of the measures that they find most suitable for their use.

Alcohol Abuse Education

In almost every society, primitive or more advanced, alcohol is produced from a variety of raw materials, processed to varying degrees of potency, and consumed for many different reasons and in many different contexts. It has been used in religious ceremonies, in the practice of magic, for medication, in confirmation of rites of passage through life (births, initiations, marriages, and funerals), in ratification of official compacts, and in hospitality to friends, relatives and neighbors. International data on alcohol consumption indicate that use seems to be most prevalent in industrialized nations. As of 1976, the United States ranked

15th among 26 countries in total per capita consumption of alcohol, and 3rd in consumption of distilled spirits (Mayer, 1983). According to the National Institute on Alcohol Abuse and Alcoholism, in 1979 approximately 67 percent of all adults in the United States could be classified as drinkers (Mayer, 1983). Approximately 70 percent of 12- to 17-year-olds in the United States have used alcohol (U.S. Department of Health and Human Services, 1988).

It is estimated that five percent of Americans are alcohol dependent and that 8-10 million Americans are problem drinkers (Mayer, 1983). Alcoholism and alcohol abuse are now widely recognized public health problems around the world. Along with this recognition came a variety of treatment programs. At this time, two of the more common program goals include reduced drinking and complete abstinence. Because of the different views regarding appropriate program foci, the measures in this handbook may need to be adapted to correspond to a program's goals. Information on how to use this handbook in evaluating the effectiveness of alcohol abuse education programs is in the next chapter. For those readers who wish to acquire specific information about alcohol abuse, references following the amplified content descriptors in Appendix A may prove useful.

References

Mayer, W. (1983, October). Alcohol abuse and alcoholism: The psychologist's role in prevention, research, and treatment. *American Psychologist*, 1116-1121.

U.S. Department of Health and Human Services. (1988). *Disease prevention/health promotion: The facts*. Palo Alto, CA: Bull Publishing.

CHAPTER TWO

Essentials of Program Evaluation for Health Educators

Essentials of Program Evaluation for Health Educators

Education programs are intended to help people. Public school programs, for example, are intended to help youngsters acquire the skills and knowledge that they will need as adults. Similarly, health education programs are intended to promote participants' adoption of beneficial health-related behaviors. Yet, even though an education program might have been well intentioned, how do we know that the goals of the program were realized? Moreover, if a program is not meeting its goals, how can the program be made more effective?

Such questions constitute the core of program evaluation. In essence, evaluators want to discover whether a program has worked effectively and, if not, how it can be made more effective. When evaluation is used to improve programs, it can make a significant contribution to the well-being of program participants and, potentially, to the community at large.

In this chapter, the nature of program evaluation will be considered as it relates to health education programs. The following topics will be discussed:

- Focusing the Evaluation
- Rights of Participants
- Selecting Appropriate Measures
- When to Administer Measures
- Data-Gathering Design Options
- Sampling Considerations for Data Collection
- Data Analysis
- Reporting Results

The purpose of this chapter is not to promote a particular evaluation model for health education programs. Rather, the chapter deals with considerations central to any evaluation effort. It is hoped that evaluators* of alcohol abuse education programs will be able to apply the chapter's contents to their endeavors.

Focusing the Evaluation

The results of a program evaluation can be used to improve decisions about programs. Anyone setting out to evaluate a health education program, therefore, should focus the evaluation on the *decisions* that are likely to be made about the program, either while the program is being implemented or when it is concluded. In other words, if evaluators know what decisions are apt to be faced by those who will use the evaluation's results, then information bearing on those decisions should, if possible, be collected during the evaluation. To determine what these decisions are, an evaluator needs to have a clear understanding of the purpose of the program, the specifics of the program, and the individuals or groups who may use the evaluation's results. Focusing the evaluation involves considerations such as (a) the nature and role in the evaluation of program objectives, (b) the summative and formative functions of evaluation, (c) the cost of the program, (d) the extent to which observed changes in participants will also be attributed to the program, and (e) the extent to which program effects will be generalizable to other situations. Each of these considerations is discussed below.

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* Sometimes a program evaluation will be conducted by an individual not affiliated with the program itself—an individual formally designated as a program evaluator. More frequently, however, an evaluation will be carried out by the personnel who are actually operating the program. Whenever the term "evaluator" is used in this handbook, it will refer both to the evaluator-specialist and to the program staff member serving as evaluator.

Objectives and evaluation. Health education programs are designed to bring about worthwhile effects. Most health education programs, therefore, are organized around some form of program objectives that focus on such intended effects. In general, the more clearly these objectives are stated, the more useful they will be in carrying out an evaluation.

One way of conducting an evaluation is to determine the extent to which a program's objectives have been achieved. Program designers too frequently describe their objectives in such ambiguous, general ways, however, that it is impossible to tell whether such loosely defined objectives have been attained. It is for this reason that it can be beneficial for evaluators to work with program personnel, prior to program implementation, to create program objectives that clearly describe desired post-program participant behaviors.

Another potential pitfall when creating program objectives is the tendency to delineate a set of hyper-detailed objectives. Specificity does not automatically yield utility. Instead, decision makers can become overwhelmed by long lists of low-level, albeit behaviorally stated, objectives. For example, a program objective that participants be able to identify the parts of the brain affected by alcohol is going to lead down a path toward numerous small-scope objectives. Recent thinking regarding instructional objectives suggests that program objectives, *while still measurable,* should focus on larger, more significant types of participant post-program behaviors. A more significant alcohol-related objective, for example, might be that participants be able to identify the effects of alcohol on the body. Today's health education programs, rather than being organized around 30 miniscule (and, therefore, potentially trivial) objectives, might better be focused on a half-dozen more general, but still measurable, program objectives.

Most evaluators agree, however, that there is substantially more to program evaluation than merely determining whether a program's objectives have been achieved. For example, there may be effects of the program that were not anticipated in the program's stated objectives. Evaluators need to be attentive not only to the effects of a program that were anticipated, but also to any unforeseen program effects.

Summative and formative functions. Summative evaluation addresses the question of whether a program, in its complete and final form, is effective. The decisions associated with the summative evaluation are essentially go/no-go decisions, such as whether to continue a health education program or, perhaps, whether to disseminate the program more widely.

Formative evaluation addresses questions associated with improving a program that is "under development," that is, still modifiable. The decisions associated with formative evaluation focus on ways to improve particular parts of the program. Formative evaluation is an ongoing endeavor conducted as the program is designed, installed, and maintained. Whereas summative evaluation's mission is to provide a final judgment about a program's overall merit, formative evaluation's mission is to bolster a program's quality on a continuing basis. The effective formative evaluator functions less as an external judge and more as a collaborating member of the program team. The formative evaluator's task is to monitor the program so that it can be improved.

Almost all programs are, at least to some degree, modifiable. Hence, only in rare cases do evaluators appraise a health education program in its complete and final form. One such instance might involve a materials-based alcohol abuse education program. For example, if the program were found to be effective via a summative evaluation, a commercial publisher would distribute the program's materials nationally. In most cases, however, health education programs can be modified and improved. Thus, a formative, improvement-oriented evaluation can be carried out for most health education programs.

Cost-analysis considerations. Program evaluators are often so concerned about detecting the effects of programs that they fail to consider the *costs* of those effects. Yet decision makers need information regarding not only the effects of a program, but also the resources required to achieve those results. For this reason, program evaluators should carefully isolate and communicate the relative costs of programs. For example, information should be collected that can show how much Program A costs to produce a given result compared to the cost of Program B to produce a comparable result. Judgments about a program's impact without considerations regarding its costs are potentially superficial. In recent years, there has been much attention to cost-analysis strategies. Although consideration of those procedures is beyond the scope of this handbook, serious evaluators of health education programs would do well to delve more deeply into cost-analysis procedures.*

Attributing observed changes to the program. Characteristically, an evaluation seeks to determine whether individuals have changed as a result of their participation in a program. The key issue is whether pre-program to post-program changes in the status of participants are attributable to the program itself or to other extraneous factors. Examples of extraneous factors are participants' maturation, their familiarity with the measures used in the evaluation, or their reactions to non-program events such as a health-related, mass media campaign. This issue revolves around the evaluator's ability to properly infer that the program itself caused any observed changes in participants. Technically, the degree to which evaluators can validly infer that a program caused a set of observed changes is referred to as the *internal validity* of the evaluation study. Ideally, an evaluation's data-gathering design should help to rule out explanations other than the program itself for observed changes. (Data-gathering design options are discussed later in this chapter.) If evaluators are unable to attribute observed changes to the program, they will have difficulty in determining program quality.

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* For additional information about cost-analysis approaches, see Annotated Bibliography Nos. 1, 28, and 29.

Generalizing program effects. A related issue is the extent to which the findings of an evaluation study can be generalized to other situations. The issue here is whether the program would be expected to produce similar results with, for example, a different group of participants, slight variations in the program, or changes in program personnel. The degree to which the results of an evaluation study can be generalized elsewhere is technically described as the study's *external validity*.

If evaluations are generalizable, they can provide useful information to (a) program personnel regarding the range of conditions under which the program is effective and (b) other health educators who may wish to adopt an already "evaluated" health education program. An alcohol abuse education program that works well in one setting may provide helpful guidelines for those wishing to operate other alcohol abuse education programs. Typically, however, a local evaluation should be conducted once the program has been adopted.

It is important to distinguish between a program's causative power and the program's generalizability, because different information may be required to establish each factor. Procedures that limit the number of extraneous variables in the evaluation (e.g., including only males) increase internal validity but, at the same time, limit generalizability. Evaluators must try to balance the problems associated with threats to internal and external validity by selecting a data-gathering design that best addresses the information needs of program personnel as well as of those external to the program who may be interested in adopting the program elsewhere.*

Rights of Participants

Health education programs are designed to improve individuals' health and well-being. When such programs are evaluated, therefore, the focus is typically on a program's impact on human beings. Some evaluators, however, become so caught up with the importance of appraising a health education program that they overlook the rights of the individuals who take part in the evaluation. Two important rights are those of informed consent and confidentiality.

Informed consent. Evaluators, just as researchers, should be guided by a profound respect for human dignity. Therefore, they should not engage in evaluative activities that in any way demean participants. Prominent among the considerations that should guide evaluators is the concept of *informed consent*. Informed consent requires that an evaluator secure, in advance of the study, permission from the participants in an investigation to gather data from them. This consent is obtained *after* the potential participants have learned about the nature of the investigation and what their role would be, because that information may influence their decision to participate. Informed consent eliminates the possibility of making individuals unknowingly serve as subjects in an evaluation.

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* For additional information about internal and external validity issues, see Annotated Bibliography Nos. 8, 11, 12, and 16.

Two different approaches to securing informed consent have been employed by program evaluators. The first of these, *active informed consent,* obliges an evaluator to obtain, in writing, a statement from each participant indicating that the individual is willing to participate in the evaluation. The significant aspects of the evaluation must be described in the written permission form so that potential participants are fully informed when they give their consent.

An evaluator using the second approach, *passive informed consent*, supplies descriptions of the evaluation's essentials to all program participants and provides them an opportunity to register, in writing, their unwillingness to participate in the study. In other words, when a passive informed consent approach is used, participants return the forms supplied to them only if they are *not* willing to participate in the evaluation study. Of the two approaches, the active informed consent strategy typically results in fewer participants because those individuals who do not provide consent forms must be excluded from the study. Because evaluators who conduct studies involving school-age children are obliged to secure informed consent from underage participants' parents or guardians, a passive informed consent strategy is often adopted due to the difficulty of securing active informed consent from individuals who are not participating in the program themselves.

Procedures for developing forms for both of these approaches to securing informed consent are described in Appendix B. The actual forms to be used in an evaluation would need to be created so that they are more specifically relevant to the program involved.

Confidentiality. Another consideration when dealing with human subjects is the *confidentiality* of all information gathered during an evaluation. Because the evaluator is not concerned with an appraisal of individual participants but, rather, with gauging the effectiveness of a health education program, ensuring participant confidentiality usually poses no problem. Evaluators must, however, devise protective safeguards, such as anonymous completion of forms and careful handling of data, to ensure both the appearance and reality of confidentiality.*

Selecting Appropriate Measures

Although there are various approaches to program evaluation, almost all share one common feature, namely, the systematic gathering of evidence regarding a program's effects. To secure evidence of program effects, evaluators usually employ measurement instruments. Some instruments, however, are far more suitable for assessing a program's effects than others.

Criterion-referenced measurement. For more than two decades, educational measurement specialists have directed increasing attention toward an emerging form of assessment known as criterion-referenced measurement. In comparison to norm-referenced measurement, which attempts to ascertain an examinee's status in relation to the status of other examinees, criterion-referenced measurement attempts to ascertain an examinee's status in relation to a clearly defined set of behaviors. The essence of a criterion-referenced instrument is the clarity with which its accompanying descriptive materials explain what is being measured. Because norm-referenced instruments emphasize *relative* comparisons among examinees, they often do not provide a clear description of exactly what it is they are assessing. In contrast, criterion-referenced instruments are *absolute* measures, designed to determine exactly what it is that examinees can or cannot do, without reference to the performance of other examinees. Thus, criterion-referenced tests provide a clearer description of what they are measuring.

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* For additional information about the rights of human subjects and the ethics of evaluation, see Annotated Bibliography Nos. 2, 26, and 38.

It is the clarity regarding what is being assessed that renders criterion-referenced measures ideal for the evaluation of health education programs. Consistent with the mission of providing useful information for decision makers, criterion-referenced instruments describe the precise nature of what is being measured. Hence, when criterion-referenced measures are used to gather evidence in program evaluations, decision makers can accurately interpret the evidence being supplied.*

Attributes of well-constructed measures. All instruments, whether norm-referenced or criterion-referenced, should measure what they are measuring with consistency. The consistency with which an instrument measures is known as its *reliability.*** There are several different indices that can be computed to reflect an instrument's reliability. The kind of reliability data needed to appraise a measure for possible use in an evaluation study should be consonant with the way the measure will be used in that study. If a measure is to be used on a test-retest basis, for example, then information about that type of reliability is germane. If alternate forms of a test are to be used, for instance, in a pretest-posttest situation, then evidence should be available regarding alternate-forms reliability so that the evaluator can determine whether or not the two different forms are sufficiently equivalent.

It should be noted that when a health education program is being evaluated, attention should be directed to the impact of the program on a *group* of participants. Thus, the consistency to be sought when measurement instruments are used for program evaluation is consistency for a group of participants' scores. When dealing with individual participants, the measures must yield *individual* or diagnostic consistency.

A second critical attribute of a properly constructed measure is that it yields scores from which valid inferences can be drawn. An instrument is often said to be valid "if it measures what it purports to measure." Such a statement, however, is technically in error. Tests themselves are never valid or invalid. Rather, it is the *interpretations* made from test scores that are valid or invalid.

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* For additional information about the nature and development of criterion-referenced measures, see Annotated Bibliography Nos. 7, 24, and 34.

** For information about determining the reliability of measuring instruments, see Annotatetd Bibliography Nos. 3, 18, 19, 23, 27, and 34.

There are several types of validity evidence, each yielding somewhat different but conceptually related indications about our ability to make valid inferences from a measure. Evidence of validity is, in the opinion of most measurement specialists, the most important consideration in judging the adequacy of measurement instruments. Program evaluators should make sure they are knowledgeable about methods of securing validity evidence.*

A final consideration in appraising the quality of measures used for program evaluation deals with the presence of *bias* in the assessment devices. During the past decade, measurement specialists have become particularly aware that many educational assessment devices contain items biased against particular subgroups, such as ethnic minorities or women. An example of a biased test item would be a knowledge question that, because of peculiarities in its content or wording, is more difficult for women to understand and answer correctly than it is for men, even though the men and women have an equivalent amount of knowledge regarding the particular concept being tested.

Another type of bias that can adversely influence examinee performance arises when test items are offensive to particular groups of individuals. For example, if a test item includes content that is seen to be derisive to members of particular ethnic groups, then examinees from those groups are not apt to perform at their best on the item. Their warranted agitation over the offensive content is likely to interfere with their responses to that item as well as to subsequent items. There are now available both judgmental and empirical techniques for detecting the presence of biased items. These approaches should be used to identify, then eradicate, bias in a measure's items.**

Finally, it is important to note that any given instrument may not possess all of the qualities discussed above. Often evaluators must choose among measures that embody some but not all of the elements described here, that is, (a) descriptive clarity, (b) reliability, (c) validity, and (d) absence of bias. Another important point is that merely because a measure is *labeled* in a particular way, for example, as criterion-referenced or as nonbiased, that does not automatically indicate that it is of sufficient quality to be used in evaluating a health education program. Scrutiny of all aspects of the measure's quality is requisite.

When to Administer Measures

Decisions regarding when to administer measures depend on the data-gathering design selected. Conceivably, there are four temporal periods during which it may be useful to obtain evaluative information about participants of health education programs. There may also be reasons for repeated measurement during some of these periods. These periods are depicted in Figure 2.1.

Pretests. Often it is useful to have information about participants prior to their starting the program. Such information, typically referred to as pretest data, may be used to identify participant needs so that instruction can be targeted directly at those areas. In addition,

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* For information about obtaining validity evidence regarding measuring instruments, see Annotated Bibliography Nos. 3, 18, 19, 23, 27, and 34.

** For information about methods for avoiding test bias, see Annotated Bibliography Nos. 6 and 33.

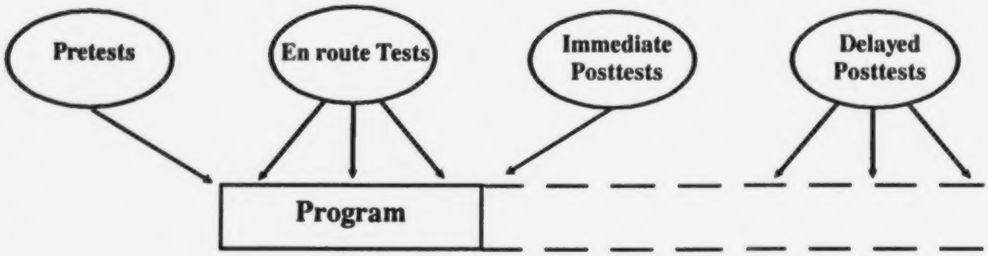

Figure 2.1: Possible measurement times in program evaluation studies

pretest data can be compared with data collected at the end of a program. Such a comparison can provide a measure of program impact.

En route tests. Measures can also be administered during a program to secure current readings on the status of participants. For purposes of formative evaluation, en route data can be used to redirect resources during the program by providing program personnel with ongoing status-checks on participants' progress. Thus, en route tests may be even more useful than tests administered at the end of the program, because en route measurement provides information while there is still time for program personnel to act on it. This type of assessment is most appropriate for programs of long duration (e.g., several months or more).

Immediate posttests. Measures are commonly administered following a program. The data from posttests can be compared with pretest data to examine changes in participants from the beginning to the end of the program. Participants' posttest performance can also be contrasted with posttest scores from participants in other programs. In addition, posttest data provide an indication of the absolute status of participants on the variables of interest at the completion of the program.

Delayed posttests. Data from delayed or follow-up posttests are often as important or more important than immediate posttest data in evaluating a health education program. Delayed posttest data might be secured, for example, several months after a program's conclusion. Far too frequently data collection efforts are limited to those times when measurement is most convenient. Ultimately, however, health educators should be interested in effecting long-term, rather than short-term, behavioral, affective, and cognitive changes. It is nearly impossible to infer such long-term changes on the basis of information gathered solely at the end of a program. As indicated in Chapter One, many of the desired changes in participants of alcohol abuse education programs represent long-term rather than short-term objectives. For most health education programs, some follow-up measurement is usually warranted.

Clearly, it is not sensible to administer all measures at all time periods. Evaluators, in collaboration with program personnel and other interested parties, need to select a measurement scheme that focuses on the most appropriate times for gathering data. Just as it is desirable to avoid administering an excessive number of different measures, it is also necessary to avoid an excessive number of administrations. It may be useful to administer certain measures (for example, a brief behavioral self-report measure) on a continuing basis; other more time-consuming measures might be administered less frequently. Decisions about when to administer measures should be guided by common sense, attentiveness to participants' feelings, the efficient use of resources, and any conventional expectations, such as when a delayed posttest is ordinarily given.

Data-Gathering Design Options

It is sometimes thought that program evaluations must include complicated and elaborate data-gathering designs in order to yield decisive and compelling data. This is simply not the case. Program personnel and evaluators should try to conduct evaluation studies and gather data in such a way that the ambiguity of results can be reduced to a minimum. That is, evaluations must attempt to determine whether a program works and what makes it work or what prevents it from working. Data-gathering designs serve as the means to this end by setting forth the procedures to be used in exploring the nature and impact of a program.

The data-gathering design that an evaluator chooses for an evaluation will determine the inferences the evaluator can make about a program's overall impact on participants and the effectiveness of its various components. To select the best designs for evaluation studies, evaluators must have a broad knowledge of the available data-gathering design alternatives and the strengths and weaknesses associated with each. Evaluators must also work closely with program staff to determine what decisions are at issue regarding the program. No evaluation study will be perfect; every evaluation leaves some questions unanswered. Evaluators need to be clear regarding what they have learned about a program and the degree of certainty associated with their findings, and they must convey this information to appropriate audiences.

An important concept related to data-gathering designs is randomization. Randomized selection and assignment are described below, followed by brief descriptions of the most common data-gathering designs available for evaluators of health education programs.

Randomization. One technique that can prove useful to evaluators is *randomization,* which involves the selection or assignment of participants in a nonsystematic manner, such as by using a table of random numbers (found in most statistics texts). A prominent application of randomization in program evaluation is *randomized selection* of subjects. This sort of randomization is particularly important when the evaluator wishes to generalize from the results of a study to a larger population. When the participants taking part in the program to be evaluated have been selected at random from a larger population of potential participants, then the evaluator can be reasonably confident that those involved in the evaluation will be representative of that larger population. There is less likelihood that the participants being studied in the evaluation are atypical, which would make it inappropriate to generalize the evaluation's results to the population at large. Randomized selection of subjects may also be useful when there are more applicants than vacancies for a program.

Another use of randomization is to assign participants to different "treatments" or programs. If an evaluator wishes to compare the effects of different treatments, then the evaluator wants the participants in each treatment to be as equivalent as possible. To this

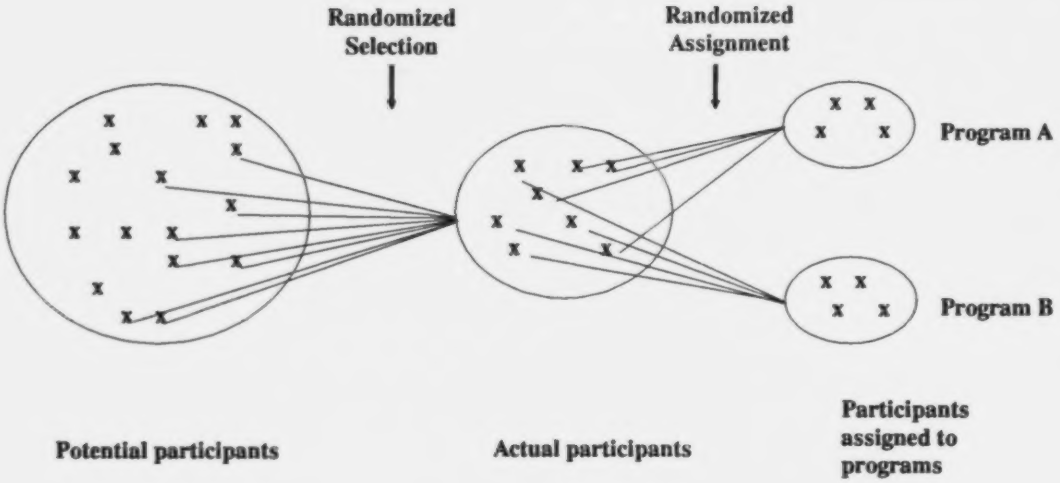

Figure 2.2: Randomized selection of participants from pool of potential participants and randomized assignment of participants to programs

end, evaluators can employ a *randomized assignment* procedure whereby individuals are randomly placed in the treatments or programs to be compared.

The two procedures of randomized selection and randomized assignment are illustrated in Figure 2.2. Note that participants are randomly selected from the pool of potential participants, and then randomly assigned to either Program A or Program B.

The use of randomization techniques does not necessarily create equivalent groups. For example, if an evaluator were to randomly assign 50 potential participants in a company's alcohol abuse education program to treatment and no-treatment groups, it is still possible that one of the groups would contain individuals who, when pretested, were significantly different in some important aspect from those in the other group. In such instances, evaluators must rely on statistical procedures in an effort to compensate for such disparities. In most cases, however, use of randomization will create groups of sufficient equivalence that such statistical adjustments are not needed.

In practice, program personnel often may not have the luxury of constituting groups via randomized selection or assignment. For example, local school board policies might require that *all* youngsters be provided with any program regarded as potentially beneficial. When randomization is not used, it is especially important to collect and examine descriptive data about participants to determine where pre-program group differences occur and to consider the ways in which such differences may influence post-program data. Even if randomization is impossible, attempts to constitute comparison groups with individuals as equivalent as possible can help minimize the influence of preexisting participant differences.*

Seven different data-gathering designs of potential utility for evaluators of health education programs will be presented below. Each data-gathering design will be described and depicted schematically. Some of the major factors involved in the selection of data-gathering designs will be addressed.

The case-study design. Consider a six-month health education program aimed at modifying participants' knowledge about the effects of alcohol on health. If participants' knowledge were measured only at the close of the program, we could describe the data-gathering approach as a *case-study design* and represent it schematically as shown in Figure 2.3.

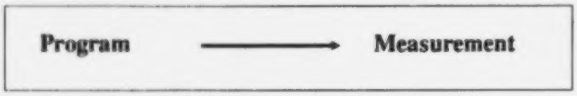

Figure 2.3: Case-Study Design

If this were the design employed in an evaluation, what could an evaluator tell about the program's impact on participants' knowledge? How confident would an evaluator be that participants' knowledge about the effects of alcohol was attributable to the program?

It would be difficult, with confidence, to attribute any effects to the health education program. The program, indeed, may have been totally ineffectual. In fact, participants' post-program knowledge might be identical to their knowledge before the program. The participants could be demonstrating knowledge that they brought to the program, not that they acquired during the program. Because we have no measure of participant knowledge prior to the program, we cannot distinguish between preexisting knowledge and knowledge acquired as a result of the program. Hence, with the case-study design, it may be impossible to determine whether the program had any impact on participants.

Even though attributions of causality are often unwarranted, it may be possible to secure useful program evaluation data with such a data-gathering design. Suppose, for example, that a health education program is promoting a body of knowledge so advanced that few, if any, individuals would be familiar with it. In such a setting, one could assume that participants' post-program knowledge is attributable to the program's impact because participants would almost certainly not have acquired the knowledge without the program. It might not be worth the resources necessary to implement a data-gathering design capable of conclusively demonstrating that participants began the program unfamiliar with the knowledge being promoted.

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* For additional information about randomization, see Annotated Bibliography Nos. 8 and 25.

This example illustrates an important data-gathering consideration, namely, that the chief mission of data-gathering designs is to *rule out plausible rival explanations,* that is, explanations other than the program's impact that might account for the post-program status of participants. If there is reason to believe that participants' pre-program status may account for their post-program status, then a data-gathering design should be selected that permits the evaluator to rule out this rival explanation.

The one-group pretest-posttest design. Now suppose that, to avoid the major shortcoming of the case-study design, an evaluator measures participants' behavior both before and after a health education program. This data-gathering approach can be described as a *one-group pretest-posttest design* and can be represented as shown in Figure 2.4.

Measurement → **Program** → **Measurement**

Figure 2.4: One-Group Pretest-Posttest Design

Assume an evaluator uses the one-group pretest-posttest design and that the data reveal a substantial shift toward more desirable behaviors between the initial and the final measurement. Can this change in behaviors be ascribed to the program? Unfortunately, the evaluator cannot be sure. There are many other factors, totally unrelated to the program, that may have influenced participants' behaviors. For instance, if an alcohol abuse education program emphasized the relationship between alcohol and health, and at the same time a study linking heavy consumption of alcohol to certain chronic diseases received attention in the national news, such an event may have influenced participants' views regarding alcohol and health. Evaluators of programs that serve children must also consider the possible effects of maturation during the time the program is offered. Participants' increased maturity may cause pre-program to post-program shifts in behaviors. The program itself may have contributed nothing to the measured shift of behaviors. Such extraneous factors decrease the evaluator's ability to draw defensible conclusions about the program's impact.

As was true with the case-study design, however, if there are no plausible rival explanations for the posttest results, the one-group pretest-posttest design can be suitable for the task at hand. In fact, this simple yet serviceable design is often used in formative evaluation.

The one-group pretest-posttest design requires measurement before as well as after a program. This points to a commonly accepted but often overlooked principle of effective program evaluation. Evaluation is most effective when it is initiated at the beginning of a program. If evaluators are not called in until the end of a program, they may be hampered in their efforts to design a credible program evaluation.

The nonequivalent control/comparison group design. Program evaluators can eliminate some of the more common rival explanations for changes in participants' behaviors by using data-gathering designs in which either comparison or control groups are employed. The use of a control group (untreated individuals) or a comparison group (individuals receiving a different program) requires two groups that are assumed to be relatively similar (before the program) on all related variables. When using these designs, the evaluator should attempt to secure two groups that are as similar as possible. Because the two groups are not randomly assigned to the two conditions, however, they cannot be assumed to be *equivalent*, hence the design's designation as a "nonequivalent" control or comparison group design.

In the control-group version of this design, only one of the groups is given the program to be evaluated; the other group is left untreated. This data-gathering design, known as the *nonequivalent control group design*, is illustrated in Figure 2.5.

Group 1: Measurement → Program → Measurement

Group 2: Measurement → Measurement

Figure 2.5: Nonequivalent Control Group Design

In this design, a control group (Group 2) is assessed before and after the program, but it never receives the program itself. Assuming that the groups were similar before the program, if the program participants' behaviors change while the behaviors of those in the control group remain the same, the evaluator can be reasonably confident that the program caused the change.

The use of an *untreated* control group may strike some health educators as a particularly unsavory data-gathering ploy. After all, health educators design their programs to benefit participants. To withhold such programs from individuals, even for the important purpose of evaluating the program's effectiveness, seems downright reprehensible. Yet, the individuals from whom the program is withheld, that is, the members of the control group, can be given the program *subsequently*, as soon as the evaluation study has been concluded. Also, in some situations there are more program applicants than can be accommodated, and, therefore, some prospective participants must be denied access to this program under any circumstances. Those who are not admitted to the program could be used as a control group, and admitted to the program the next time it is offered.

A variation of the nonequivalent control group design involves the use of a comparison group, that is, a group receiving a different program or a different treatment. Program evaluators frequently find themselves studying the quality of two or more competing programs. Thus, the evaluator focuses on the relative virtues of two or more different programs rather than on a contrast between a single program and an untreated control group. A schematic depiction of a *nonequivalent comparison group design*, in this instance contrasting two different programs, is presented in Figure 2.6. As indicated above, more than two groups can be employed when using a nonequivalent comparison group design. An evaluator using this design can be fairly certain that, if the groups were similar before the program, any differences in post-program behaviors are due to the differential impact of the two programs.

Group 1: **Measurement** → **Program A** → **Measurement**

Group 2: **Measurement** → **Program B** → **Measurement**

Figure 2.6: Nonequivalent Comparison Group Design

There are, however, potential problems with the nonequivalent control/comparison group designs. It may be that the initial measurement was *reactive*. A reactive measurement is one that, by itself or in combination with the program, influences participants' behavior. Attitude inventories and self-report questionnaires about behavioral practices are notoriously reactive. For example, a questionnaire administered before the program might alert participants to the importance of a desired behavior. This would heighten their attentiveness when the program dealt with content related to that behavior and, as a consequence, influence their performance on the second measurement.

Moreover, measurement is expensive. Measuring the status of control groups requires valuable evaluation resources. Time and money can often be better spent studying the program being evaluated rather than studying a no-treatment control group of little intrinsic interest. Health educators should not ritualistically employ control groups in their designs if the questions at issue can be answered without the use of untreated groups.

The pretest-posttest control/comparison group design. There are two data-gathering designs that are of particular value to program evaluators if randomized assignment is possible. first of these is the *pretest-posttest control group design*, illustrated in Figure 2.7.

Randomized Assignment
- **Group 1:** **Measurement** → **Program** → **Measurement**
- **Group 2:** **Measurement** → **Measurement**

Figure 2.7: Pretest-Posttest Control Group Design

The difference between this design and the previously considered nonequivalent control group design is, of course, the randomized assignment of subjects to the two groups. This feature of the design is a particularly important one, because creation of two or more groups using randomized assignment is an effective way of promoting equivalence between the groups, especially if the number of subjects in each group is large (say, 30 or more). Equivalence of groups at the beginning of the program strengthens the inference that any differences at the conclusion of the program are due to program impact.

By using comparison groups, that is, two or more program groups, instead of an untreated control group, the evaluator would be using a *pretest-posttest comparison group design*, shown in Figure 2.8.

Randomized Assignment	**Group 1:**	**Measurement**	→	**Program A**	→	**Measurement**
	Group 2:	**Measurement**	→	**Program B**	→	**Measurement**

Figure 2.8: Pretest-Posttest Comparison Group Design

Because pretests are used in both of these designs, the possibility of reactive pre-program measures is still present. For situations in which reactivity is of great concern, a different data-gathering design, described next, has much appeal.

The posttest-only control group design. In situations where a measure is likely to be reactive, the evaluator can rely on a clever data-gathering design that effectively dodges the reactivity problem. This *posttest-only control group design* is depicted in Figure 2.9. This design is the same as the pretest-posttest control group design, except that there is no pretest.

Randomized Assignment	**Group 1:**	**Program**	→	**Measurement**
	Group 2:			**Measurement**

Figure 2.9: Posttest-Only Control Group Design

In this design, neither Group 1 nor Group 2 is pretested, but because of random assignment the groups can be considered equivalent prior to Group 1 receiving the program. Not pretesting Group 1 effectively avoids a pretest's potentially reactive effect on program participants. To assess the impact of the program, it is possible to contrast the *posttest* performances of Groups 1 and 2. As with the other control group designs, the untreated control group could be given the program the next time it is offered.

The basic dividend of the posttest-only control group design is that by measuring an untreated, randomly assigned control group, the evaluator secures an estimate of how program participants would have responded on a pretest, but without introducing the potentially reactive effects of a pretest. Although the diagram for this design suggests that the measurements be made for both groups at the conclusion of the program, it is possible to measure the untreated control group earlier if that seems advisable.

Multiple measures over time. There are certain situations in which health educators may wish to appraise the effects of their programs on the basis of periodic measurements, for example, by using regularly administered questionnaires or data that are routinely recorded. For instance, suppose when evaluating an employee alcohol abuse prevention program, the evaluator was interested in the number of alcohol-related referrals occuring in the company. Assuming that such information is available from the firm's health records, the evaluator might study records at periodic intervals before, during, and after the program. By observing the frequency of referrals during different time intervals, the evaluator would have valuable information regarding program effects.

A number of the most commonly used data-gathering designs have been described. There are other, more complex designs than those treated here.* Complexity, however, is rarely an asset if a more straightforward design is appropriate.

Sampling Considerations for Data Collection

The data-gathering requirements of an evaluation can become a burdensome intrusion into an ongoing health education program. Accordingly, evaluators should conduct their data-gathering activities in the least intrusive manner possible. One way to minimize an evaluation's intrusiveness is by relying on sampling techniques, such as person-sampling and item-sampling, each of which is described below.

Person-sampling. To estimate how a large group of people would respond on a particular measure, it is not necessary to administer the measure to all the individuals in the group. Instead, a smaller group can be selected. This smaller group can be either a *simple random sample* or a *stratified random sample,* that is, a sample stratified on the basis of program-relevant factors such as age, sex, and socioeconomic status. Assuming that the sample is randomly selected, the evaluator can estimate the status of the total group based on the responses of the sample.

Suppose, for example, that the evaluator wants to use a measure to determine participants' knowledge about the effects of alcohol on the society. Assuming that there is a reasonably large number of program participants, say 50 or so, the evaluator could randomly select half of the participants and administer the measure to this group only. In essence, this approach allows the evaluator to infer how the total group of participants would score on the measure, even though only half of the participants completed it. Thus, it is possible to estimate total group performance with only half the amount of participant time required for data gathering.

Using a similar sampling procedure, evaluators can administer two or more measures at once in the time it takes to administer one. Suppose that two measures are to be given to program participants. The evaluator can randomly assign one measure to half of the participants and the other measure to the remaining participants. Each participant needs to respond to only one measure, but the evaluator can derive defensible estimates of how all the participants would have responded on both instruments.

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* For additional information about evaluation design options, see Annotated Bibliography Nos. 8, 11, 22, 23, and 35.

Item-sampling. In addition to sampling persons, as in the previous examples, it is also possible to sample items, so that different sets of items from a program evaluation measure are randomly selected to be administered to different persons. Using this approach, the evaluator gives each participant only a sample of the items on any particular measure. For example, suppose a program evaluator wishes to administer a 30-item test. Given 60 participants in the program, the evaluator could divide the test into three sets of 10 items each and administer each set of 10 items to 20 different participants. In this way, the total group's performance on the whole test can be estimated. This approach to data gathering requires only one-third of the time that would have been required to administer the total 30-item test to all participants.

Sample size. Given the relatively small number of participants in some health education programs, is it really appropriate to sample either persons or items? How large must groups be before these sampling procedures can be sensibly used? Unequivocal answers to these questions do not exist. Some texts on sampling provide rules of thumb for estimating the size of samples needed for detecting group differences in relation to the magnitude of differences sought and the nature of the groups being sampled. At best, though, these rules provide only rough estimates. It is important to recognize that the task of identifying a sufficiently large sample is more difficult than usually thought.

The variability of participants' anticipated performance on the measures is the primary determiner of the sample size necessary. If it is expected that participants' scores on a test will be relatively homogeneous, a smaller number of respondents will be needed than if participants' scores are expected to vary widely. Thus, if on a measure of knowledge about the signs and symptoms of problem drinking, for example, some of the participants are expected to know many signs and others are expected to know very few, reasonably large numbers of participants (e.g., 20) should respond to any one item.

Intuitively, one recognizes that when working with a very small group of program participants, the use of these sampling techniques is risky. For instance, if there were only 15 participants in a program, few evaluators would try to split these participants into three groups of five each for purposes of taking different sets of items. Even though each group represents one-third of the total population, there is too much likelihood that a sample of five individuals would not properly represent the total group. One or two atypical participants in a five-person group would render the group's average performance unrepresentative of how the larger group would have performed.

It should be noted that when employing procedures such as person-sampling or item-sampling, an evaluator is focusing on a group of participants *in the aggregate*. Because evaluations are typically concerned with the effects of programs on groups of participants, the use of sampling procedures is usually appropriate. If, however, program personnel need individual data on all examinees, then sampling should obviously not be employed.*

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* For additional information about sampling procedures, see Annotated Bibliography Nos. 9 and 10.

Data Analysis

A frequent question asked of an evaluator is whether a study's results are statistically significant. For example, could the observed changes in program participants' knowledge or behavior from pretest to posttest have occurred simply by chance? Statistical tests are used to answer this type of question. Consideration of statistical analysis procedures, however, is beyond the scope of this handbook. Thus, just a few comments will be made here regarding data analysis. Because there are many subtle choice-points in the statistical analysis of evaluation data, evaluators who are not well versed in at least the more common statistical procedures should probably enlist the aid of someone who is.

There are two basic classes of statistics, namely, descriptive statistics, such as the mean, and inferential statistics, such as the *t* test. *Descriptive statistics* help evaluators portray a group's performance on a given measure. For example, an evaluator might describe a set of participants' scores via the mean score (the scores' central tendency) and standard deviation of the scores (the scores' variability). Because the mean and standard deviation are frequently used, program evaluators should know how to calculate and interpret them. Any introductory statistics book for the social sciences will serve as a reference for this information. *Inferential statistics* help evaluators determine whether an observed difference between pre-program and post-program scores is *statistically significant,* that is, whether such a difference could have occurred because of chance alone. If the probability is small that the results are due to chance, the evaluator can, with reasonable confidence, attribute the results to the program.

Statistical significance, however, does not imply *practical significance*. A small difference between the average scores of two groups can be statistically significant, particularly when large numbers of participants are involved, yet be of no practical consequence whatsoever. Health educators will need to make sensible determinations regarding whether the magnitude of an observed difference, even though statistically significant, is sufficiently important to warrant action. In other words, although evaluators of health education programs should often carry out statistical significance tests, they should not be unduly swayed by the results of such analyses. Common sense must always be applied in interpreting the meaning of a statistically significant result.*

Reporting Results

Reporting the results of an evaluation study is a more difficult undertaking than is usually recognized. Considerable attention must be given to the procedures employed to report the results of health education program evaluations. When reporting evaluation results, as when focusing and planning the evaluation, the evaluator must be responsive to the needs of program decision makers. A few key considerations should be kept in mind when reporting evaluation results.

Evaluators must report their results to decision makers in a timely fashion. It does no good to deliver an evaluation report several weeks after key program decisions had to be made. Evaluators must also be careful to disseminate their findings to all appropriate audiences. If possible, an evaluator should circulate the preliminary draft of a program evaluation report to program personnel so that they can react to its accuracy and objectivity.

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* For additional information about data analysis, see Annotated Bibliography Nos. 25, 36, 39, 43, and 45.

The decision makers whom evaluators are assisting may have scant experience with quantitative data. As a consequence, complicated statistical presentations may be of little value to them. Evaluators should select data-presentation procedures that will match the technical sophistication of the decision makers involved. In any evaluation report, there is nothing wrong with simple graphs or "percentage correct" tables. The more intuitively comprehensible the data-presentation techniques, the better they are. Program evaluators should provide straightforward presentations of data without fearing that such approaches will be regarded as too elementary. Adequate technical back-up can be appended as necessary to the final report.

Evaluators should not be reluctant to make speculations based upon their knowledge about a program, but these conjectures should be identified as such. Similarly, if any of the evaluation's findings are equivocal, the evaluator should inform concerned audiences of this fact. Honesty and objectivity are the hallmarks of effective evaluation reporting.

In addition, because decision makers are typically busy people, evaluators should strive for reasonable brevity in their reports. The preparation of executive summaries to accompany lengthy reports is a useful practice. Voluminous evaluation reports are almost certainly destined to go unread. Terse, easily read reports are much more likely to make an impact on decision makers.

The whole thrust of the evaluation enterprise is to facilitate better decisions. Decision making will *not* be illuminated by complex, lengthy, or otherwise incomprehensible presentations of evaluation results. The quality of decision making can be enhanced only if an evaluation's results are reported in a way that can be clearly understood.*

Reprise

In this chapter, a number of issues almost certain to be encountered by evaluators of alcohol abuse education programs were considered. Because this handbook supplies a number of measures to be used in the evaluation process, special attention was given to the role of such measures in program evaluation. Evaluators desiring more detailed treatments of the topics covered in this chapter will find appropriate sources in the Annotated Bibliography.**

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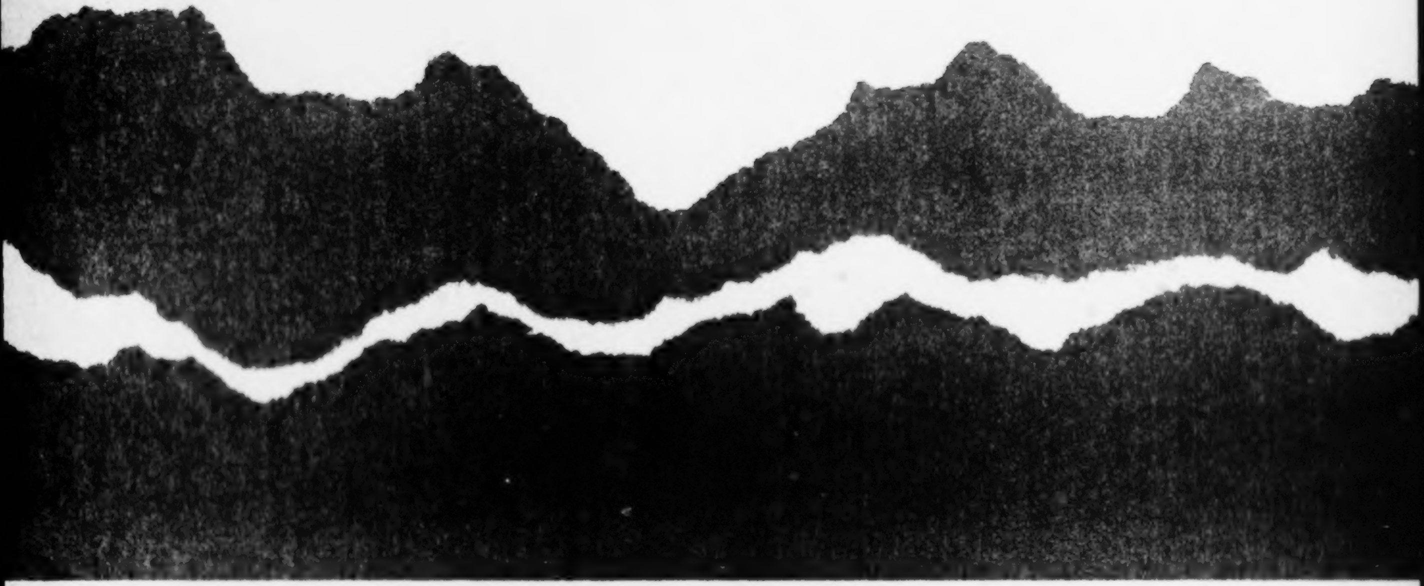
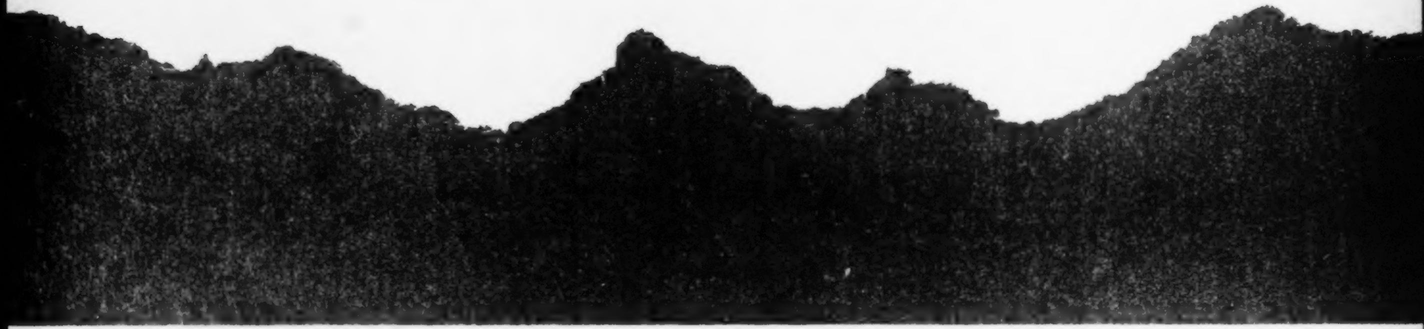
* For additional information about reporting the results of an evaluation, see Annotated Bibliography Nos. 5, 23, 26, and 35.

** For additional information about program evaluation, see Annotated Bibliography Nos. 5, 13, 16, 20, 23, 32, 41, 46, 49, and 51.



CHAPTER THREE

Alcohol Abuse Education Measures



Overview of Measures

Category	Title	Target Group	Description	Page No.
Behavior	**Drinking Report**	Adults	Assesses problem-free use of alcoholic beverages.	35
	Drinking Log	Adolescents Preadolescents		40
	Alcohol Use	Adults	Assesses use of alcoholic beverages.	45
	Alcohol Survey	Adolescents Preadolescents		50
	Drinking History	Adults	Assesses drinking behaviors in the recent past.	55
	Drinking Habits	Adolescents Preadolescents		59
Knowledge*	**Physical Effects of Alcohol Use**	Adults	Assesses knowledge of the personal consequences of alcohol use.	62
	Facts About Alcohol Use	Adolescents Preadolescents		68
	The Effects of Alcohol Use on Society	Adults	Assesses knowledge of the societal consequences of alcohol use.	74
	Problems with Alcohol	Adolescents Preadolescents		82

* The information eligible for inclusion in the knowledge measures is provided in Appendix A as amplified content descriptors.

Category	Title	Target Group	Description	Page No.
Knowledge	**Problem Drinking**	Adults	Assesses knowledge about signs and symptoms of problem drinking.	90
Skill	**Systematic Decision Making**	Adults	Assesses ability to use systematic decision making.	96
	Making Decisions	Adolescents Preadolescents		110
Affective	**Refraining from Drinking**	Adults	Assesses perceived ability to refrain from drinking.	122
	Drinking Situations	Adolescents Preadolescents		125
	Have a Drink?	Adults	Assesses perceived ability to refrain from drinking.	129
	Ideas About Alcohol Use	Adults	Assesses perceived consequences of alcohol use.	136
	Beliefs About Alcohol Use	Adolescents Preadolescents		140
	Drinking Survey	Adults Adolescents Preadolescents	Assesses intention to refrain from using alcohol.	144
	Taking Care of Yourself	Adults Adolescents Preadolescents	Assesses willingness to engage in health-enhancing behaviors.	146

DRINKING REPORT

This behavior measure assesses participants' responsible, problem-free use of alcoholic beverages during the past month. This measure is appropriate for adults. This measure is not appropriate for complete abstainers.

PURPOSE

Information on participants' drinking behavior may be useful in the following ways:

- Administration of this measure at the beginning of the program may provide needs assessment information. For example, results of this measure may show that participants do not frequently exhibit problem-free drinking behaviors, thus indicating a need to strengthen participants' belief in the value of responsible drinking.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' use of problem-free drinking behaviors.

PROCEDURES

This instrument should be administered both at the beginning and the end of the program. The program should be at *least* 4 weeks in length, preferably longer.

SCORING AND ANALYSIS

- **Past Month Use (Question 1)**

1. Assign point values to response options as follows:

   Never = 1
   Once = 2
   Two or three times = 3
   Once a week = 4
   Two to four times a week = 5
   Almost every day = 6
   Once a day = 7
   More than once a day = 8

   This question can be scored by adding the point values of the responses from all participants and dividing this sum by the total number of participants. The resulting score indicates the average number of times participants drank alcoholic beverages during the last month. Use the scale above to interpret the results.

2. To determine the percentage of participants who checked each response option (for example, drank **Once a week** in the past month), count the number of times each response option is marked for all

participants. Divide this sum by the total number of program participants and multiply by 100.

EXAMPLE:

Imagine that there are 10 program participants. First, count all the times the response **Once a week** *is marked. (Assume the total number of times is 3.) Then, divide 3 by the number of participants to get 0.3. Multiply 0.3 times 100 to determine that 30 percent of program participants drank once a week during the past month. Follow the same procedure for each response option.*

- **Responsible Use of Alcohol (Question 2)**

Point values are assigned to response options as follows:

Never = 1
Almost Never = 2
Sometimes = 3
Often = 4
Almost Always = 5
Always = 6

This question can be scored by adding the point values of the responses from all participants and dividing this sum by the total number of responses for the group. Blank items and items marked **Does Not Apply** should not be counted in the total number of responses. The maximum attainable score of 6 points indicates frequent use of responsible drinking behaviors. A minimum score of 1 indicates that responsible drinking behaviors were not used in the last month.

- **Problems Associated with Alcohol Use (Question 3)**

Point values are assigned to response options as follows:

0 times = 1
1-2 times = 2
3-5 times = 3
6-9 times = 4
10 or more times = 5

This question can be scored by adding the point values of the responses from all participants and dividing this sum by the total number of responses for the group. Blank items should not be counted in the number of responses. The maximum attainable score of 5 points indicates that participants experienced alcohol-related behavioral problems 10 or more times during the past month. A minimum score of 1 indicates that participants experienced no alcohol-related behavioral problems (assessed on the measure) in the past month. If preferred, each of the behavioral problems/events can be scored separately.

DRINKING REPORT

The following questions are about drinking alcoholic beverages. Alcoholic beverages include beer, wine, and hard liquor. Please answer these questions as honestly as you can. Your answers are confidential. Do not write your name on this questionnaire.

1. About how often did you drink an alcoholic beverage during the past *MONTH*? (*Check one.*)

   ( ) Never
   ( ) Once
   ( ) Two or three times
   ( ) Once a week
   ( ) Two to four times a week
   ( ) Almost every day
   ( ) Once a day
   ( ) More than once a day

2. When you drank alcoholic beverages during the past *MONTH*, how often did you do each of the following? Put only one check for each sentence.

	Never	Almost Never	Some-times	Often	Almost Always	Always	Does Not Apply
a. I planned the number of drinks I would have and stayed within that limit.	( )	( )	( )	( )	( )	( )	( )
b. When I had more than one drink, I spaced my drinks out over a period of time.	( )	( )	( )	( )	( )	( )	( )
c. When drinking away from home, I limited my drinking to one drink each hour.	( )	( )	( )	( )	( )	( )	( )
d. I drank slowly to make my drinks last longer.	( )	( )	( )	( )	( )	( )	( )
e. I counted the number of drinks I was having.	( )	( )	( )	( )	( )	( )	( )
f. I drank weak drinks.	( )	( )	( )	( )	( )	( )	( )
g. I drank milk or ate food before drinking to reduce the effects of alcohol.	( )	( )	( )	( )	( )	( )	( )
h. When drinking, I had a soda or other beverage without alcohol part of the time.	( )	( )	( )	( )	( )	( )	( )
i. I drank drinks that are low in alcohol (such as low-alcohol beer or wine coolers).	( )	( )	( )	( )	( )	( )	( )
j. When drinking away from home, I planned for a safe ride home.	( )	( )	( )	( )	( )	( )	( )

3. During the past *MONTH*, how often did each of the following events occur? Put only one check for each sentence.

	0 times	1-2 times	3-5 times	6-9 times	10 or more times
a. My speech became fuzzy or slurred from drinking.	( )	( )	( )	( )	( )
b. I drove a car after having more than one drink per hour.	( )	( )	( )	( )	( )
c. I felt sick from drinking.	( )	( )	( )	( )	( )
d. I had a hangover from drinking.	( )	( )	( )	( )	( )
e. I was late to work or school because of drinking.	( )	( )	( )	( )	( )
f. I had more to drink than I planned to have.	( )	( )	( )	( )	( )
g. I had a drink in the morning.	( )	( )	( )	( )	( )
h. I tried to hide my drinking at home or work.	( )	( )	( )	( )	( )
i. I made sure there was alcohol nearby.	( )	( )	( )	( )	( )
j. I gulped down a drink.	( )	( )	( )	( )	( )
k. I didn't want to drink but had a drink anyway.	( )	( )	( )	( )	( )
l. I was sorry for things I said or did while drinking.	( )	( )	( )	( )	( )
m. I had problems with my family or friends because of drinking.	( )	( )	( )	( )	( )
n. I had a drink at work or school.	( )	( )	( )	( )	( )
o. My family or friends suggested I cut back on drinking.	( )	( )	( )	( )	( )
p. I couldn't remember things that happened when I was drinking.	( )	( )	( )	( )	( )
q. I had a drink because of problems at home or work.	( )	( )	( )	( )	( )

DRINKING LOG

This behavior measure assesses participants' responsible use of alcoholic beverages during the past month. This measure is appropriate for adolescents and preadolescents. This measure is not appropriate for complete abstainers.

PURPOSE

Information on participants' drinking behavior may be useful in the following ways:

- Administration of this measure at the beginning of the program may provide needs assessment information. For example, results of this measure may show that participants do not frequently exhibit problem-free drinking behaviors, thus indicating a need to strengthen participants' belief in the value of responsible drinking.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' use of problem-free drinking behaviors.

PROCEDURES

This instrument should be administered both at the beginning and the end of the program. The program should be at *least* 4 weeks in length, preferably longer.

SCORING AND ANALYSIS

- **Past Month Use (Question 1)**

1. Assign point numbers to responses as follows:

    Never = 1
    Once = 2
    Two or three times = 3
    Once a week = 4
    Two to four times a week = 5
    Almost every day = 6
    Once a day = 7
    More than once a day = 8

    This question can be scored by adding the point values of the responses from all participants and dividing this sum by the total number of participants. The resulting score indicates the average number of times participants drank alcoholic beverages during the last month. Use the scale above to interpret the results.

2. To determine the percentage of program participants who checked each response option (for example, drank **Once a week** in the past month), count the number of times each answer is marked for all

participants. Divide this sum by the total number of program participants and multiply by 100.

EXAMPLE:

Imagine that there are 10 program participants. First, count all the times the response **Once a week** *is marked. (Assume the total number of times is 3.) Then, divide 3 by the number of participants to get 0.3. Multiply 0.3 times 100 to determine that 30 percent of program participants drank once a week during the past month. Follow the same procedure for each response option.*

- **Responsible Use of Alcohol (Question 2)**

Point values are assigned to response options as follows:

Never = 1
Almost Never = 2
Sometimes = 3
Often = 4
Almost Always = 5
Always = 6

This question can be scored by adding the point values of the responses from all participants and dividing this sum by the total number of responses for the group. Blank items and items marked **Does Not Apply** should not be counted in the number of responses. The maximum attainable score of 6 points indicates a frequent use of responsible drinking behaviors. A minimum score of 1 indicates that responsible drinking behaviors were not used in the last month.

- **Problems Associated with Alcohol Use (Question 3)**

Point values are assigned to response options as follows:

0 times = 1
1-2 times = 2
3-5 times = 3
6-9 times = 4
10 or more times = 5

This question can be scored by adding the point values of the responses from all participants and dividing this sum by the total number of responses for the group. Blank items should not be counted in the number of responses. The maximum attainable score of 5 points indicates that participants experienced alcohol-related behavioral problems 10 or more times during the past month. A minimum score of 1 indicates that participants experienced no alcohol-related behavioral problems (assessed on the measure) in the past month. If preferred, each of the behavioral problems/events can be scored separately.

DRINKING LOG

The following questions are about drinking alcoholic beverages. An "alcoholic beverage" means beer, wine, or hard liquor (such as vodka or whiskey). Please answer these questions as honestly as you can. Your answers are confidential. Do not write your name on this questionnaire.

1. About how often did you drink an alcoholic beverage during the past *MONTH*? (*Check one.*)

   ( ) Never

   ( ) Once

   ( ) Two or three times

   ( ) Once a week

   ( ) Two to four times a week

   ( ) Almost every day

   ( ) Once a day

   ( ) More than once a day

2. When you drank alcoholic beverages during the past MONTH, how often did you do each of the following? Put only one check for each sentence.

	Never	Almost Never	Some-times	Often	Almost Always	Always	Does Not Apply
a. I planned how much to drink *and* stayed within that limit.	( )	( )	( )	( )	( )	( )	( )
b. When I had more than one drink, I spaced my drinks out over a period of time.	( )	( )	( )	( )	( )	( )	( )
c. I drank slowly to make my drinks last longer.	( )	( )	( )	( )	( )	( )	( )
d. I counted the number of drinks I was having.	( )	( )	( )	( )	( )	( )	( )
e. I drank milk or ate food before drinking to reduce the effects of alcohol.	( )	( )	( )	( )	( )	( )	( )
f. When I had more than one drink, I had a soda or other beverage without alcohol part of the time.	( )	( )	( )	( )	( )	( )	( )
g. When drinking away from home, I planned for a safe ride home.	( )	( )	( )	( )	( )	( )	( )

3. During the past *MONTH*, how often did each of the following events occur? Put only one check for each sentence.

		0 times	**1-2 times**	**3-5 times**	**6-9 times**	**10 or more times**
a.	My speech became fuzzy or slurred from drinking.	( )	( )	( )	( )	( )
b.	I drove a car after drinking.	( )	( )	( )	( )	( )
c.	I felt sick from drinking.	( )	( )	( )	( )	( )
d.	I had a hangover the morning after drinking.	( )	( )	( )	( )	( )
e.	I was late to school or work because of drinking.	( )	( )	( )	( )	( )
f.	I had more to drink than I planned to have.	( )	( )	( )	( )	( )
g.	I had a drink in the morning.	( )	( )	( )	( )	( )
h.	I missed school because of drinking.	( )	( )	( )	( )	( )
i.	I got into trouble at school or home because of drinking.	( )	( )	( )	( )	( )
j.	The quality of my schoolwork was affected by drinking.	( )	( )	( )	( )	( )
k.	I didn't want to drink but had a drink anyway.	( )	( )	( )	( )	( )
l.	I was sorry for things I said or did while drinking.	( )	( )	( )	( )	( )
m.	I had problems with my family or friends because of drinking.	( )	( )	( )	( )	( )
n.	I had a drink at school or work.	( )	( )	( )	( )	( )
o.	A family member or friend told me to cut down on drinking.	( )	( )	( )	( )	( )
p.	I couldn't remember things that happened when I was drinking.	( )	( )	( )	( )	( )
q.	I had a drink because of problems at home or school.	( )	( )	( )	( )	( )
r.	I took a ride from someone who had been drinking.	( )	( )	( )	( )	( )
s.	I didn't get my homework done because of drinking.	( )	( )	( )	( )	( )

ALCOHOL USE

This behavior measure assesses participants' use of alcoholic beverages during the past month. This measure is appropriate for adults.

PURPOSE

Information about participants' recent alcohol consumption may be useful in the following ways:

- Administration of this measure at the beginning of the program may provide needs assessment information. For example, results from this measure may indicate that participants consume large amounts of alcohol, thus indicating a need for training in the area of identifying signs and symptoms of problem drinking.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' alcohol consumption.

PROCEDURES

This measure should be administered at the beginning and end of the program.

SCORING AND ANALYSIS

- **Past Month Use (Question 1)**

  1. Count the number of responses marked **Never**. Participants who checked **Never** are considered "nondrinkers" for the purpose of this measure. This group may contain both complete abstainers and those who drink alcohol but did not drink during the last month. To determine the percentage of program participants who are nondrinkers, divide the number of nondrinkers by the total number of program participants and multiply by 100.
  2. To determine the percentage of program participants who drink alcohol, subtract the number of nondrinkers from the total number of program participants. Then, divide the number of drinkers by the total number of program participants and multiply by 100.
  3. To determine the percentage of "drinking" participants who checked each response, count the number of times each response option (except **Never**) is marked. Divide this sum by the total number of "drinking" participants and multiply by 100.

Before analyzing items 2 through 6, count the number of participants who marked **I did not drink at all during the past month** for each item. The sum for each item should equal the total number of nondrinkers identified in item 1. Variation in these totals may be due to recall error. If the number of nondrinkers is not equivalent, program personnel should review the completed questionnaires to identify inconsistent responses. Such responses should be excluded from the analyses. The scoring and analysis for items 2 through 6 pertain to "drinking" participants only.

- **Weekend and Weekday Use (Questions 2 & 3)**

  The same scoring methods and point values are used for questions 2 and 3. However, each question should be scored separately.

  Assign point values to response options as follows:

  1-2 drinks = 1
  3-4 drinks = 2
  5-6 drinks = 3
  7-8 drinks = 4
  9 or more drinks = 5

  To determine the average number of drinks consumed by "drinking" participants on (a) weekends and (b) weekdays over the past month, add the point values of the responses and divide the sum by the total number of responses. Items marked **I did not drink at all during the past month, I did not drink on weekends (weekdays) during the past month,** and blank items should not be counted in the number of responses. Use the scale above to interpret the results.

- **Effects of Alcohol Use (Questions 4 & 5)**

  To determine the percentage of "drinking" participants who checked each response option (for example, **None of the time**), count the number of times each response is marked. Divide this sum by the total number of "drinking" participants and multiply by 100.

- **Quantity of Use (Question 6)**

  1. Assign point values to responses as follows:

     0 times = 1
     1 time = 2
     2 times = 3
     3-5 times = 4
     6-9 times = 5
     10 or more times = 6

     To determine the average number of times the "drinking" participants drank 5 or more drinks at any one time, total the point values of the responses and divide by the total number of responses. Blank items and items marked **I did not drink at all during the past month** should not be counted in the number of responses. Use the scale above to interpret the results.

  2. To determine the percentage of "drinking" participants who checked each response option (for example, drank 5 or more drinks **2 times** during the past month), count the number of times each response option is marked. Divide this sum by the total number of "drinking" participants and multiply by 100.

ALCOHOL USE

The following questions are about drinking alcoholic beverages during the past MONTH. Alcoholic beverages include beer, wine, and hard liquor. Check one answer for each question. Please answer these questions as honestly as you can. Your answers are confidential. Do not write your name on this questionnaire.

1. About how many times did you drink alcoholic beverages during the past *MONTH*?

   ( ) Never
   ( ) Once
   ( ) Two or three times
   ( ) Once a week
   ( ) Two to four times a week
   ( ) Almost every day
   ( ) Once a day
   ( ) More than once a day

2. On *weekends* during the past *MONTH,* how many drinks did you usually have at any one time? (A "drink" is a glass of wine, a bottle of beer, a shot glass of liquor, or a mixed drink.)

   ( ) I did not drink at all during the past month.
   ( ) I did not drink on *weekends* during the past month.
   ( ) 1-2 drinks
   ( ) 3-4 drinks
   ( ) 5-6 drinks
   ( ) 7-8 drinks
   ( ) 9 or more drinks

3. On *weekdays* during the past *MONTH*, how many drinks did you usually have at any one time?

   ( ) I did not drink at all during the past month.
   ( ) I did not drink on *weekdays* during hte past month.
   ( ) 1-2 drinks
   ( ) 3-4 drinks
   ( ) 5-6 drinks
   ( ) 7-8 drinks
   ( ) 9 or more drinks

4. When you drank alcoholic beverages during the past *MONTH,* how often did you drink enough to feel a little high or lightheaded?

   ( ) I did not drink at all during the past month.
   ( ) None of the time
   ( ) Occasionally
   ( ) About half of the time
   ( ) Most of the time
   ( ) All of the time

5. When you drank alcoholic beverages during the past *MONTH,* how often did you drink enough to feel pretty drunk?

   ( ) I did not drink at all during the past month.
   ( ) None of the time
   ( ) Occasionally
   ( ) About half of the time
   ( ) Most of the time
   ( ) All of the time

6. During the past *MONTH,* how often did you have five or more drinks at any one time?

   ( ) I did not drink at all during the past month.

   ( ) 0 times

   ( ) 1 time

   ( ) 2 times

   ( ) 3-5 times

   ( ) 6-9 times

   ( ) 10 or more times

ALCOHOL SURVEY

This behavior measure assesses participants' use of alcoholic beverages. This measure is appropriate for adolescents and preadolescents.

PURPOSE

Information about participants' alcohol consumption may be useful in the following ways:

- Administration of this measure at the beginning of the program may provide needs assessment information. For example, results from this measure may indicate that participants consume unusually high amounts of alcohol, thus indicating a need for training in the area of identifying signs and symptoms of problem drinking.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' alcohol consumption.

PROCEDURES

This measure should be administered at the beginning and end of the program.

SCORING AND ANALYSIS

- **Past Month Use (Question 1)**

  1. Count the number of responses marked **Never**. Participants who checked **Never** are considered "nondrinkers" for the purpose of this measure. This group may contain both complete abstainers and those who drink alcohol but did not drink during the last month. To determine the percentage of program participants who are nondrinkers, divide the number of nondrinkers by the total number of program participants and multliply by 100.
  2. To determine the percentage of program participants who drink alcohol, subtract the number of nondrinkers from the total number of program participants. Then, divide the number of drinkers by the total number of program participants and multiply by 100.
  3. To determine the percentage of "drinking" participants who checked each response option, count the number of times each response option (except **Never**) is marked. Divide this sum by the total number of "drinking" participants and multiply by 100.

Before analyzing items 2 through 6, count the number of participants who marked **I did not drink at all during the past month** for each item. The sum for each item should equal the total number of nondrinkers identified in item 1. Variation in these totals may be due to recall error. If the number of nondrinkers is not equivalent, program personnel should review the completed questionnaires to identify inconsistent responses. Such responses should be excluded from the analyses. The scoring and analysis for items 2 through 6 pertain to "drinking" participants only.

- **Weekend and Weekday Use (Questions 2 & 3)**

  The same scoring methods and point values are used for questions 2 and 3. However, each question should be scored separately.

  Point values are assigned as follows:

  1 drink = 1
  2 drinks = 2
  3 drinks = 3
  4 drinks = 4
  5 or more drinks = 5

  To determine the average number of drinks consumed by "drinking" participants on (a) weekends and (b) weekdays over the past month, add the point values of the responses and divide the sum by the total number of responses. Items marked **I did not drink at all during the past month, I did not drink on weekends (weekdays) during the past month,** and blank items should not be counted in the number of responses. Use the scale above to interpret the results.

- **Effects of Alcohol Use (Questions 4 & 5)**

  To determine the percentage of "drinking" participants who checked each response option (for example, **None of the time**), count the number of times each response is marked. Divide this sum by the total number of "drinking" participants and multiply by 100.

- **Quantity of Use (Question 6)**

  1. Assign point values to responses as follows:

     0 times = 1
     1 time = 2
     2 times = 3
     3-5 times = 4
     6-9 times = 5
     10 or more times = 6

     To determine the average number of times the "drinking" participants drank 5 or more drinks at any one time, total the point values of the responses and divide by the total number of responses. Blank items and items marked **I did not drink at all during the past month** should not be counted in the number of total responses. Use the scale above to interpret the results.

  2. To determine the percentage of "drinking" participants who checked each response option (for example, drank 5 or more drinks **2 times** during the past month), count the number of times each response option is marked. Divide this sum by the total number of "drinking" participants and multiply by 100.

ALCOHOL SURVEY

The following questions are about drinking alcoholic beverages during the past MONTH. An "alcoholic beverage" means beer, wine, or hard liquor (such as vodka or whiskey). Check one answer for each question. Please answer these questions as honestly as you can. Your answers are confidential. Do not write your name on this questionnaire.

1. About how many times did you drink alcoholic beverages during the past *MONTH*?

   ( ) Never
   ( ) Once
   ( ) Two or three times
   ( ) Once a week
   ( ) Two to four times a week
   ( ) Almost every day
   ( ) Once a day
   ( ) More than once a day

2. Think back to *weekends* during the past *MONTH.* How many drinks did you usually have at any one time? (A "drink" is a glass of wine, a bottle of beer, a shot glass of liquor, or a mixed drink.)

   ( ) I did not drink at all during the past month.
   ( ) I did not drink on *weekends* during the past month.
   ( ) 1 drink
   ( ) 2 drinks
   ( ) 3 drinks
   ( ) 4 drinks
   ( ) 5 drinks or more

3. Think back to *weekdays* during the past *MONTH.* How many drinks did you usually have at any one time?

( ) I did not drink at all during the past month.

( ) I did not drink on *weekdays* during the past month.

( ) 1 drink

( ) 2 drinks

( ) 3 drinks

( ) 4 drinks

( ) 5 drinks or more

4. When you drank alcoholic beverages during the past *MONTH,* how often did you drink enough to feel a little high or lightheaded?

( ) I did not drink at all during the past month.

( ) None of the time

( ) Occasionally

( ) About half of the time

( ) Most of the time

( ) All of the time

5. When you drank alcoholic beverages during the past *MONTH,* how often did you drink enough to feel pretty drunk?

( ) I did not drink at all during the past month.

( ) None of the time

( ) Occasionally

( ) About half of the time

( ) Most of the time

( ) All of the time

6. During the past *MONTH,* how often did you have five or more drinks at any one time?

   ( ) I did not drink at all during the past month.

   ( ) 0 times

   ( ) 1 time

   ( ) 2 times

   ( ) 3-5 times

   ( ) 6-9 times

   ( ) 10 or more times

DRINKING HISTORY

This behavior measure assesses participants' drinking history during the past 12 months. This measure is appropriate for adults.

PURPOSE

Information about participants' drinking history may be useful in the following ways:

- Administration of this measure at the beginning of the program may provide needs assessment information. For example, results from this measure may indicate that most participants drink 5-8 drinks at any one time, thus indicating a need for training in responsible drinking behavior.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' drinking habits.

PROCEDURES

This measure should be administered at the beginning of the program and, if possible, as a follow-up post-program survey. The post-program administration should be done at *least* 12 months, preferably 18 months or longer, after the program was completed.

SCORING AND ANALYSIS

- **Past Use (Question 1)**

1. Count the number of participants who marked **I did not drink during the past 12 months**. These participants are considered nondrinkers. To determine the percentage of program participants who are nondrinkers, divide the number of nondrinkers by the total number of program participants and multiply by 100.
2. To determine the percentage of program participants who drink alcohol, subtract the number of nondrinkers from the total number of program participants. Then, divide the number of "drinkers" by the total number of program participants and multiply by 100.
3. To determine the percentage of "drinking" participants who checked each response option (for example, drank **every day**), count the number of times each response option is marked. Divide this sum by the total number of "drinking" participants and multiply by 100.

- **Questions 2-4**

  1. Count the number of responses marked **I did not drink during the past 12 months.** This sum should equal the total number of nondrinkers identified in question 1. Variation in these totals may be due to recall error. If the number of nondrinkers is not equivalent, program personnel should review the completed questionnaires to identify inconsistent responses. Such responses should be excluded from the analyses.
  2. To determine the percentage of "drinking" program participants who checked each response option (for example, in question 2, drank **3-4 drinks**), count the number of times each response option is marked. Divide each sum by the total number of "drinking" participants and multiply by 100.

- **Questions 5-7**

  To determine the percentage of program participants who checked each response option for questions 5 through 7 (for example, in question 5, **I drank less than before**), count the number of times each response option is marked. Divide this sum by the total number of program participants and multiply by 100.

DRINKING HISTORY

The following questions are about drinking alcoholic beverages such as beer, wine, and hard liquor. Check one answer for each question. Please answer these questions as honestly as you can. Your answers are confidential. Do not write your name on this questionnaire.

1. Think back over the past 12 months. About how often did you drink an alcoholic beverage?

   ( ) I did not drink during the past 12 months.
   ( ) less than once a week
   ( ) 1-3 times a week
   ( ) 4-6 times a week
   ( ) every day

2. During the past 12 months, how many drinks did you usually have *at any one time*? (A "drink" is a glass of wine, a bottle of beer, a shot glass of liquor, or a mixed drink.)

   ( ) I did not drink during the past 12 months.
   ( ) 1-2 drinks
   ( ) 3-4 drinks
   ( ) 5-8 drinks
   ( ) 9 or more drinks

3. During the past 12 months, about how often did you have 5 or more drinks at any one time?

   ( ) I did not drink during the past 12 months.
   ( ) never
   ( ) less than once a month
   ( ) once a month
   ( ) two or three times a month
   ( ) once a week
   ( ) twice a week
   ( ) more than twice a week

4. During the past 12 months, how many times did you drive when you might have been considered legally drunk?

( ) I did not drink during the past 12 months.
( ) never
( ) 1-2 times
( ) 3-5 times
( ) 6-10 times
( ) 11-20 times
( ) 21 or more times

5. Compare your drinking during the past 12 months to your drinking over the past several years. During the past 12 months,

( ) I drank about the same amount as before.
( ) I drank more than before.
( ) I drank less than before.
( ) I have never drunk alcohol.

6. Have you ever tried to quit drinking and found that you couldn't?

( ) no
( ) yes

7. Was there ever a time in your life when you had a drinking problem?

( ) no
( ) yes
( ) not sure

8. Some people have problems related to drinking. Has your drinking *ever* caused you to have:

a.	a family or marriage problem?	( ) yes	( ) no
b.	a job or work problem?	( ) yes	( ) no
c.	a health problem?	( ) yes	( ) no
d.	an injury?	( ) yes	( ) no
e.	a motor vehicle accident or traffic violation?	( ) yes	( ) no

DRINKING HABITS

This behavior measure assesses participants' lifetime drinking history. This measure is appropriate for adolescents and preadolescents.

PURPOSE

Information regarding participants' lifetime drinking history may be useful for needs assessment when administered at the beginning of the program. Results from this measure may indicate that most participants drink 5-8 drinks at any one time, thus indicating a need for identifying signs and symptoms of problem drinking.

PROCEDURES

This measure should be administered at the beginning of the program.

SCORING AND ANALYSIS

- **First Use (Question 1)**

  1. Count the number of participants who marked **I have never had an alcoholic beverage**. These participants are complete abstainers. To determine the percentage of program participants who are complete abstainers, divide the number of complete abstainers by the total number of program participants and multiply by 100.
  2. To determine the percentage of program participants who have had alcohol, subtract the number of complete abstainers from the total number of program participants. Then, divide the number of "nonabstainers" by the total number of program participants and multiply by 100.
  3. To determine the percentage of "nonabstainers" who checked each response option (for example, **grade 7**), count the number of times each response option is marked. Divide this sum by the total number of "nonabstainers" and multiply by 100.

- **Questions 2-5**

  1. Count the number of participants who marked **I have never had an alcoholic beverage**. This sum should equal the total number of complete abstainers identified in question 1. Variation in these totals may be due to recall error. If the number of complete abstainers is not equivalent, program personnel should review the completed questionnaires to identify inconsistent responses. Such responses should be excluded from the analyses.
  2. To determine the percentage of "nonabstainers" who checked each response option (for example, in question 2, **grade 7**), count the number of times each response option is marked. Divide this sum by the total number of "nonabstainers" and multiply by 100.

DRINKING HABITS

The following questions are about drinking alcoholic beverages. Alcoholic beverages include beer, wine, and hard liquor (such as vodka and whiskey). Check one answer for each question. Please answer these questions as honestly as you can. Your answers are confidential. Do not write your name on this questionnaire.

1. When (if ever) did you *FIRST* have an alcoholic beverage (more than just a taste or a few sips)?

( ) I have never had an alcoholic beverage.
( ) grade 6 or below
( ) grade 7
( ) grade 8
( ) grade 9 (freshman)
( ) grade 10 (sophomore)
( ) grade 11 (junior)
( ) grade 12 (senior)

2. When (if ever) did you *FIRST* get drunk or very high on alcohol?

( ) I have never had an alcoholic beverage.
( ) I have never gotten drunk or high on alcohol.
( ) grade 6 or below
( ) grade 7
( ) grade 8
( ) grade 9 (freshman)
( ) grade 10 (sophomore)
( ) grade 11 (junior)
( ) grade 12 (senior)

3. On how many occasions in your lifetime have you had alcohol to drink?

( ) I have never had an alcoholic beverage.
( ) 1 - 2 occasions
( ) 3 - 5 occasions
( ) 6 - 9 occasions
( ) 10 - 19 occasions
( ) 20 - 39 occasions
( ) 40 or more occasions

4. On how many occasions in your lifetime have you been drunk or very high on alcohol?

( ) I have never had an alcoholic beverage.
( ) 1 - 2 occasions
( ) 3 - 5 occasions
( ) 6 - 9 occasions
( ) 10 - 19 occasions
( ) 20 - 39 occasions
( ) 40 or more occasions

5. Have you ever tried to cut back on the amount you usually drink and found that you couldn't?

( ) I have never had an alcoholic beverage.
( ) yes
( ) no

PHYSICAL EFFECTS OF ALCOHOL USE

This knowledge measure assesses what participants know about the physical effects of alcohol. This measure is appropriate for adults.

PURPOSE

If your program includes instruction on the effects of alcohol on the body, this measure may be useful in the following ways:

- Administration of this measure at the beginning of the program may provide needs assessment information. For example, results of this measure may show that participants have a low level of knowledge regarding the physical effects of alcohol, thus indicating a need for participant training in that area.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' knowledge of alcohol's effects on the body.

PROCEDURES

Because the equidifficulty of the forms has not been established, it is better not to give all participants Form A as a pretest and Form B as a posttest. Instead, choose either of the following methods.

- Review Forms A and B and select one. Give all participants the selected form both before and after the program. Alternatively, select 20 items from the two forms and construct a measure most consistent with your program emphasis. Then administer the "new" form both before and after the program.
- Give Form A to half of the incoming participants and Form B to the remaining half. To distribute the forms randomly, order them "ABABAB" and hand them out. Following the program, give each participant the form not previously taken. For example, if a participant was given Form B before the program, then that participant should be given Form A following the program. This approach eliminates the possibility that examinees will be sensitized to the specific facts to be learned from the program.

SCORING AND ANALYSIS

The answer keys for the two forms are provided below:

Item No.	Form A	Form B
1	F	F
2	F	T
3	T	F
4	T	F
5	T	F
6	F	T
7	F	F
8	F	T
9	T	T
10	T	F
11	T	T
12	F	T
13	T	F
14	T	F
15	F	T
16	T	T
17	F	T
18	F	F
19	F	T
20	T	F

The measures should be scored by counting the number of correct answers for each participant. Items marked "Don't Know" or left blank should be scored as incorrect. Count the number of correct answers for each participant. Next, total the correct answers for the group and divide by the number of participants in the group. The mean number of correct answers and the standard deviation can be used to summarize participant performance on the measure. Means and standard deviations from before and after the program can be compared to determine changes in participants' knowledge.

PHYSICAL EFFECTS OF ALCOHOL USE

Form A

This test has 20 sentences about the possible effects of alcohol use. Put a check to show whether you think each sentence is TRUE or FALSE. If you don't know whether a sentence is true or false, put a check under DON'T KNOW.

True	False	Don't Know	
( )	( )	( )	1. A person cannot get as drunk by drinking beer as one could by drinking hard liquor.
( )	( )	( )	2. Frequent drinkers need less alcohol to get drunk than occasional drinkers.
( )	( )	( )	3. Males can become sexually impotent as a result of regular heavy drinking.
( )	( )	( )	4. Most people would be considered legally drunk after having four drinks in an hour.
( )	( )	( )	5. Heavy drinking over a long period of time destroys brain cells.
( )	( )	( )	6. Alcohol mixed with carbonated soda is less intoxicating than drinking the same amount of alcohol straight.
( )	( )	( )	7. The effects of alcohol will be the same whether or not a person eats food before drinking.
( )	( )	( )	8. A person's chance of developing cancer is not affected by drinking.
( )	( )	( )	9. Frequent heavy drinking often leads to stomach problems.
( )	( )	( )	10. Regular heavy drinking increases a person's chance of developing heart disease.
( )	( )	( )	11. Drinking alcohol slows down parts of the brain.

Physical Effects of Alcohol Use (Form A), p. 2

True	**False**	**Don't Know**		
( )	( )	( )	12.	A pregnant woman who drinks is as likely to have a healthy baby as a pregnant woman who doesn't drink.
( )	( )	( )	13.	Regular heavy drinking increases a person's chance of developing pneumonia.
( )	( )	( )	14.	About 75% of people who drink heavily develop liver problems.
( )	( )	( )	15.	Hard liquor has fewer calories than the same amount of a soft drink.
( )	( )	( )	16.	Regular heavy drinking increases a person's chance of having a stroke.
( )	( )	( )	17.	A person who weighs 150 pounds will get just as high on 3 drinks as a person who weighs 100 pounds.
( )	( )	( )	18.	Drinking coffee is a good way to sober up.
( )	( )	( )	19.	A person cannot become as dependent on alcohol as on heroin.
( )	( )	( )	20.	Frequent heavy drinking often leads to a shortage of vitamins in the body.

PHYSICAL EFFECTS OF ALCOHOL USE

Form B

This test has 20 sentences about the possible effects of alcohol use. Put a check to show whether you think each sentence is TRUE or FALSE. If you don't know whether a sentence is true or false, put a check under DON'T KNOW.

True	**False**	**Don't Know**	
( )	( )	( )	1. Alcohol is not addicting like heroin or cocaine.
( )	( )	( )	2. Heavy alcohol use during pregnancy slows the growth of the unborn child.
( )	( )	( )	3. The chance of developing heart disease is the same for frequent and occasional drinkers.
( )	( )	( )	4. About 10% of the people who drink heavily develop liver disorders.
( )	( )	( )	5. Drinking four drinks in one hour has the same effect as having four drinks in two hours.
( )	( )	( )	6. Heavy drinking can lower a man's sperm count.
( )	( )	( )	7. People who drink a lot are as likely to have a healthy diet as occasional drinkers.
( )	( )	( )	8. Mixing alcohol with carbonated soda makes alcohol enter the blood faster than drinking alcohol straight.
( )	( )	( )	9. Alcohol reduces the body's ability to use vitamins and proteins.
( )	( )	( )	10. Frequent heavy drinking is not related to lung disease.
( )	( )	( )	11. More than one-third of the suicides in the U.S. involve alcohol.
( )	( )	( )	12. Frequent heavy drinking damages the pancreas.
( )	( )	( )	13. Caffeine will sober a person up quickly.

Physical Effects of Alcohol Use (Form B), p. 2

True	**False**	**Don't Know**	
( )	( )	( )	14. It takes at least four drinks in an hour to cause a 125-pound adult to lose muscle coordination.
( )	( )	( )	15. Regular heavy drinking increases a person's chance of developing certain types of cancer.
( )	( )	( )	16. Alcohol enters the blood more slowly if a person drinks milk before drinking alcohol.
( )	( )	( )	17. It takes more alcohol for a frequent drinker to get drunk than an occasional drinker.
( )	( )	( )	18. People who are dependent on alcohol seldom experience physical discomfort when they try to quit drinking.
( )	( )	( )	19. Hard liquor has more calories than the same amount of cola.
( )	( )	( )	20. A person who drinks only beer cannot become an alcoholic.

FACTS ABOUT ALCOHOL USE

This knowledge measure assesses what participants know about the physical effects of alcohol. This measure is appropriate for adolescents and preadolescents.

PURPOSE

If your program includes instruction on the effects of alcohol on the body, this measure may be useful in the following ways:

- Administration of this measure at the beginning of the program may provide needs assessment information. For example, results of this measure may show that participants have a low level of knowledge regarding the physical effects of alcohol, thus indicating a need for participant training in that area.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' knowledge of alcohol's effects on the body.

PROCEDURES

Because the equidifficulty of the forms has not been established, it is better not to give all participants Form A as a pretest and Form B as a posttest. Instead, choose either of the following methods.

- Review Forms A and B and select one. Give all participants the selected form both before and after the program. Alternatively, select 20 items from the two forms and construct a measure most consistent with your program emphasis. Then administer the "new" form both before and after the program.
- Give Form A to half of the incoming participants and Form B to the remaining half. To distribute the forms randomly, order them "ABABAB" and hand them out. Following the program, give each participant the form not previously taken. For example, if a participant was given Form B before the program, then that participant should be given Form A following the program. This approach eliminates the possibility that examinees will be sensitized to the specific facts to be learned from the program.

SCORING AND ANALYSIS

The answer keys for the two forms are provided below:

Item No.	Form A	Form B
1	T	F
2	F	T
3	F	F
4	T	T
5	F	T
6	T	T
7	T	F
8	F	T
9	F	F
10	T	F
11	F	T
12	T	F
13	T	F
14	F	T
15	F	T

The measures should be scored by counting the number of correct answers for each participant. Items marked "Don't Know" or left blank should be scored as incorrect. Count the number of correct answers for each participant. Next, total the correct answers for the group and divide by the number of participants in the group. The mean number of correct answers and the standard deviation can be used to summarize participant performance on the measure. Means and standard deviations from before and after the program can be compared to determine changes in participants' knowledge.

FACTS ABOUT ALCOHOL USE

Form A

This test has 15 sentences about alcoholic beverages (such as beer, wine, and hard liquor). Put a check to show whether you think each sentence is TRUE or FALSE. If you don't know whether a sentence is true or false, put a check under DON'T KNOW.

True	False	Don't Know	
( )	( )	( )	1. Frequent heavy drinking usually leads to liver damage.
( )	( )	( )	2. Hard liquor (such as whiskey) has fewer calories than the same amount of a soft drink.
( )	( )	( )	3. Eating a lot of food before a person drinks will keep him/her from getting drunk.
( )	( )	( )	4. People who drink a lot are likely to die at a younger age than people who rarely drink.
( )	( )	( )	5. Young people who drink regularly do not have more school problems than those who rarely drink.
( )	( )	( )	6. Anyone who drinks can become an alcoholic.
( )	( )	( )	7. Over time, frequent heavy drinking damages parts of the brain.
( )	( )	( )	8. People who drink a lot are as likely as other people to eat a balanced diet.
( )	( )	( )	9. The effects of alcohol will be the same whether a person has three drinks in one hour or in two hours.
( )	( )	( )	10. Frequent heavy drinking increases the chance of developing lung disease.
( )	( )	( )	11. Teenagers who drink are no more likely to use other drugs than teenagers who don't drink.

Facts About Alcohol Use (Form A), p. 2

True	False	Don't Know		
( )	( )	( )	12.	Mixing alcoholic drinks with soft drinks makes the alcohol enter the blood faster.
( )	( )	( )	13.	Most people begin to feel a little high after drinking just one glass of beer or wine.
( )	( )	( )	14.	People who drink a lot have about the same number of family problems as people who drink less.
( )	( )	( )	15.	A pregnant woman who drinks is as likely to have a healthy baby as a pregnant woman who doesn't drink.

FACTS ABOUT ALCOHOL USE

Form B

This test has 15 sentences about alcoholic beverages (such as beer, wine, and hard liquor). Put a check to show whether you think each sentence is TRUE or FALSE. If you don't know whether a sentence is true or false, put a check under DON'T KNOW.

True	False	Don't Know	
( )	( )	( )	1. A person cannot become an alcoholic by drinking only beer.
( )	( )	( )	2. Teenagers who drink regularly have more school problems than teenagers who drink occasionally.
( )	( )	( )	3. A hangover results from too little sleep after drinking.
( )	( )	( )	4. Young people who drink a lot are likely to use drugs such as marijuana.
( )	( )	( )	5. Frequent heavy drinking can cause damage to the stomach.
( )	( )	( )	6. Young people are more likely to drink if they have friends who drink.
( )	( )	( )	7. Drinking coffee after drinking alcohol will make a person less drunk.
( )	( )	( )	8. Frequent heavy drinking uses up vitamins that are stored in the body.
( )	( )	( )	9. Alcohol enters the blood faster if a person drinks milk before drinking alcohol.
( )	( )	( )	10. Frequent heavy drinking has little effect on one's chance of developing cancer.
( )	( )	( )	11. Over time, heavy drinking can make a person think less clearly.

True	False	Don't Know		
( )	( )	( )	12.	People who drink too much will usually admit that they have a drinking problem.
( )	( )	( )	13.	It is safe for a woman to drink as much as she wants during the second half of pregnancy.
( )	( )	( )	14.	People will feel more drunk if they have three drinks in one hour than the same amount in two hours.
( )	( )	( )	15.	Most people who drink heavily develop liver disease.

THE EFFECTS OF ALCOHOL USE ON SOCIETY

This knowledge measure assesses what participants know about the effects of alcohol on society. This measure is appropriate for adults.

PURPOSE

If your program includes instruction on the effects of alcohol on society, this measure may be useful in the following ways:

- Administration of this measure at the beginning of the program may provide needs assessment information. For example, results of this measure may show that participants have a low level of knowledge regarding the effects of alcohol on society, thus indicating a need for participant training in that area.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' knowledge of the effects of alcohol on society.

PROCEDURES

Because the equidifficulty of the forms has not been established, it is better not to give all participants Form A as a pretest and Form B as a posttest. Instead, choose either of the following methods.

- Review Forms A and B and select one. Give all participants the selected form both before and after the program. Alternatively, select 20 items from the two forms and construct a measure most consistent with your program emphasis. Then administer the "new" form both before and after the program.
- Give Form A to half of the incoming participants and Form B to the remaining half. To distribute the forms randomly, order them "ABABAB" and hand them out. Following the program, give each participant the form not previously taken. For example, if a participant was given Form B before the program, then that participant should be given Form A following the program. This approach eliminates the possibility that examinees will be sensitized to the specific facts to be learned from the program.

SCORING AND ANALYSIS

The answer keys for the two forms are provided below:

Item No.	Form A	Form B
1	B	C
2	A	C
3	B	B
4	A	B
5	A	A
6	C	A
7	C	C
8	B	A
9	A	C
10	C	C

The measures should be scored by counting the number of correct answers for each participant. Items marked "Don't Know" or left blank should be scored as incorrect. Count the number of correct answers for each participant. Next, total the correct answers for the group and divide by the number of participants in the group. The mean number of correct answers and the standard deviation can be used to summarize participant performance on the measure. Means and standard deviations from before and after the program can be compared to determine changes in participants' knowledge.

THE EFFECTS OF ALCOHOL USE ON SOCIETY

Form A

This test has 10 questions about alcohol use in America. Circle one answer for each question. If you are unsure of what the answer is, circle answer choice D for DON'T KNOW.

1. About what percentage of American adults have a drinking problem?

   A. 5%

   B. 10%

   C. 30%

   D. Don't know

2. Which of the following is true about the drinking patterns of men and women?

   A. Men drink more than women.

   B. Men and women drink about the same amount.

   C. Women drink more than men.

   D. Don't know

3. About what percentage of American adults have no more than two drinks each week?

   A. 25%

   B. 65%

   C. 85%

   D. Don't know

4. Which of the following is true about children of problem drinkers?

   A. They are more likely than most other people to become problem drinkers.

   B. They have the same chance as other people of becoming problem drinkers.

   C. They are less likely than most other people to become problem drinkers.

   D. Don't know

5. Of the automobile crashes each year in which someone dies, about what percentage involve alcohol?

   A. 55%

   B. 75%

   C. 90%

   D. Don't know

6. About what proportion of violent crime (such as rape and assault) involves alcohol each year?

   A. less than one-third

   B. between one-third and two-thirds

   C. more than two-thirds

   D. Don't know

7. About how much do problems caused by alcohol abuse cost society each year?

   A. hundreds of thousands of dollars

   B. millions of dollars

   C. billions of dollars

   D. Don't know

8. About what proportion of family violence (physical fighting) involves alcohol each year?

   A. about one-third

   B. about one-half

   C. about two-thirds

   D. Don't know

9. When the legal age for buying alcohol is lowered, what usually happens to the number of alcohol-related automobile crashes in which someone is killed?

   A. There is an increase in the number of fatal alcohol-related crashes.

   B. The number of fatal alcohol-related crashes remains about the same.

   C. There is a decrease in the number of fatal alcohol-related crashes.

   D. Don't know

10. About what percentage of Americans say that alcohol has caused a problem in their family?

    A. 10%

    B. 20%

    C. 30%

    D. Don't know

THE EFFECTS OF ALCOHOL USE ON SOCIETY

Form B

This test has 10 questions about alcohol use in America. Circle one answer for each question. If you are unsure of what the answer is, circle answer choice D for DON'T KNOW.

1. How often do marriages in which one or both partners have a drinking problem end in divorce?

   A. less often than other marriages

   B. equally as often as other marriages

   C. more often than other marriages

   D. Don't know

2. How does alcohol abuse compare to other diseases in terms of national health-care costs?

   A. Alcohol abuse is the second most costly medical problem.

   B. Alcohol abuse is the fifth most costly medical problem.

   C. Alcohol abuse is the tenth most costly medical problem.

   D. Don't know

3. On average, how many times each day does a child in America see people drinking alcoholic beverages on television?

   A. about 3 times a day

   B. about 8 times a day

   C. about 15 times a day

   D. Don't know

4. About what percentage of deaths from all diseases are related to alcohol use each year?

   A. 5%

   B. 10%

   C. 25%

   D. Don't know

5. When the price of alcoholic beverages goes up, what happens to the number of alcohol-related deaths?

   A. The number of deaths decreases.

   B. The number of deaths stays about the same.

   C. The number of deaths increases.

   D. Don't know

6. On average, how many drinks do most American adults have each week?

   A. less than 3 drinks

   B. about 5 drinks

   C. more than 10 drinks

   D. Don't know

7. About what proportion of violent crime (such as robbery and murder) involves the use of alcohol each year?

   A. less than one-third

   B. between one-third and two-thirds

   C. more than two-thirds

   D. Don't know

8. How do alcohol-related automobile crashes rank as a cause of death among teenagers?

   A. They are the #1 cause of death.

   B. They are the #2 cause of death.

   C. They are the #3 cause of death.

   D. Don't know

9. For every dollar Americans spend on alcoholic beverages, about how much money is spent to repair the damage caused by drinking?

   A. 50 cents

   B. 1 dollar

   C. 2 dollars

   D. Don't know

10. Of women who drink, about what percentage continue to drink while they are pregnant?

    A. 10%

    B. 40%

    C. 60%

    D. Don't know

PROBLEMS WITH ALCOHOL

This knowledge measure assesses what participants know about the effects of alcohol on society. This measure is appropriate for adolescents and preadolescents.

PURPOSE

If your program includes instruction on the effects of alcohol on society, this measure may be useful in the following ways:

- Administration of this measure at the beginning of the program may provide needs assessment information. For example, results of this measure may show that participants have a low level of knowledge regarding the effects of alcohol on society, thus indicating a need for participant training in that area.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' knowledge about the effects of alcohol on society.

PROCEDURES

Because the equidifficulty of the forms has not been established, it is better not to give all participants Form A as a pretest and Form B as a posttest. Instead, choose either of the following methods.

- Review Forms A and B and select one. Give all participants the selected form both before and after the program. Alternatively, select 20 items from the two forms and construct a measure most consistent with your program emphasis. Then administer the "new" form both before and after the program.
- Give Form A to half of the incoming participants and Form B to the remaining half. To distribute the forms randomly, order them "ABABAB" and hand them out. Following the program, give each participant the form not previously taken. For example, if a participant was given Form B before the program, then that participant should be given Form A following the program. This approach eliminates the possibility that examinees will be sensitized to the specific facts to be learned from the program.

SCORING AND ANALYSIS

The answer keys for the two forms are provided below:

Item No.	Form A	Form B
1	A	C
2	B	A
3	B	C
4	C	A
5	A	B
6	B	B
7	A	C
8	C	C
9	C	A
10	C	C

The measures should be scored by counting the number of correct answers for each participant. Items marked "Don't Know" or left blank should be scored as incorrect. Count the number of correct answers for each participant. Next, total the correct answers for the group and divide by the number of participants in the group. The mean number of correct answers and the standard deviation can be used to summarize participant performance on the measure. Means and standard deviations from before and after the program can be compared to determine changes in participants' knowledge.

PROBLEMS WITH ALCOHOL

Form A

This test has 10 questions about alcohol use in America. Circle one answer for each question. If you are unsure of what the correct answer is, circle D for DON'T KNOW.

1. Compared to five years ago, how much are high school seniors drinking today?

   A. High school seniors are drinking less.

   B. High school seniors are drinking about the same amount.

   C. High school seniors are drinking more.

   D. Don't know

2. About how many of today's high school seniors think their friends would disapprove of occasional heavy drinking by teenagers?

   A. one-quarter

   B. one-half

   C. three-quarters

   D. Don't know

3. Each year, about what percentage of all deaths result from alcohol-related diseases?

   A. 5%

   B. 10%

   C. 25%

   D. Don't know

4. Which of the following is true about children of problem drinkers?
   - A. They are less likely than anyone else to become problem drinkers.
   - B. They have the same chance as anyone else of becoming problem drinkers.
   - C. They are more likely than anyone else to become problem drinkers.
   - D. Don't know

5. When the price of alcohol goes up, what happens to the number of alcohol-related deaths?
   - A. The number of alcohol-related deaths goes down.
   - B. The number of alcohol-related deaths stays about the same.
   - C. The number of alcohol-related deaths goes up.
   - D. Don't know

6. About what percentage of American adults say that alcohol has caused a problem in their family?
   - A. 10%
   - B. 33%
   - C. 50%
   - D. Don't know

7. If the legal age for buying alcohol is raised, what happens to the number of alcohol-related automobile crashes?
   - A. The number of alcohol-related crashes goes down.
   - B. The number of alcohol-related crashes remains about the same.
   - C. The number of alcohol-related crashes goes up.
   - D. Don't know

8. About how much money do the problems caused by alcohol abuse cost Americans each year?

   A. thousands of dollars

   B. millions of dollars

   C. billions of dollars

   D. Don't know

9. About how many of the cases of violent crime (such as robbery and murder) involve the use of alcohol each year?

   A. less than one-third

   B. between one-third and two-thirds

   C. more than two-thirds

   D. Don't know

10. Alcohol is involved in about how many cases of suicide each year?

    A. less than one-third

    B. between one-third and two-thirds

    C. more than two-thirds

    D. Don't know

PROBLEMS WITH ALCOHOL

Form B

This test has 10 questions about alcohol use in America. Circle one answer for each question. If you are unsure of what the correct answer is, circle D for DON'T KNOW.

1. About what percentage of today's high school seniors have tried alcohol?

   A. 38%

   B. 51%

   C. 93%

   D. Don't know

2. How do alcohol-related automobile crashes rank as a cause of death among teenagers?

   A. They are the #1 cause of death.

   B. They are the #3 cause of death.

   C. They are the #5 cause of death.

   D. Don't know

3. Which of the following is true about the drinking patterns of men and women?

   A. Women drink more than men.

   B. Men and women drink about the same amount.

   C. Men drink more than women.

   D. Don't know

4. If the price of alcohol goes up, what happens to the amount of alcohol that people drink?

   A. People drink less alcohol.

   B. People continue to drink about the same amount of alcohol.

   C. People drink more alcohol.

   D. Don't know

5. About what percentage of today's American adults have a drinking problem?

   A. 5%

   B. 10%

   C. 30%

   D. Don't know

6. On average, how many teenagers in the United States die each day in alcohol-related automobile crashes?

   A. 1 teenager

   B. 5 teenagers

   C. 10 teenagers

   D. Don't know

7. For every dollar Americans spend on alcoholic beverages, about how much money is spent to repair the damage caused by drinking?

   A. fifty cents

   B. one dollar

   C. two dollars

   D. Don't know

8. About what percentage of the automobile crashes each year in which someone dies involve alcohol?

   A. 25%

   B. 35%

   C. 55%

   D. Don't know

9. About what percentage of today's high school seniors drink an alcoholic beverage nearly every day?

   A. 5%

   B. 25%

   C. 50%

   D. Don't know

10. About how many of the violent crimes (such as rape and assault) committed each year involve alcohol?

    A. less than one-third

    B. between one-third and two-thirds

    C. more than two-thirds

    D. Don't know

PROBLEM DRINKING

This knowledge measure assesses what participants know about problem drinking. This measure is appropriate for adults.

PURPOSE

If your program includes instruction on problem drinking, this measure may be useful in the following ways:

- Administration of this measure at the beginning of the program may provide needs assessment information. For example, results of this measure may show that participants lack knowledge regarding problem drinking, thus indicating a need for participant training in that area.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' knowledge of problem drinking.

PROCEDURES

Because the equidifficulty of the forms has not been established, it is better not to give all participants Form A as a pretest and Form B as a posttest. Instead, choose either of the following methods.

- Review Forms A and B and select one. Give all participants the selected form both before and after the program. Alternatively, select 20 items from the two forms and construct a measure most consistent with your program emphasis. Then administer the "new" form both before and after the program.
- Give Form A to half of the incoming participants and Form B to the remaining half. To distribute the forms randomly, order them "ABABAB" and hand them out. Following the program, give each participant the form not previously taken. For example, if a participant was given Form B before the program, then that participant should be given Form A following the program. This approach eliminates the possibility that examinees will be sensitized to the specific facts to be learned from the program.

SCORING AND ANALYSIS

The answer keys for the two forms are provided below:

Item No.	Form A	Form B
1	T	F
2	T	F
3	T	T
4	F	F
5	F	T
6	T	F
7	F	T
8	T	T
9	T	F
10	T	T
11	F	F
12	T	F
13	F	T
14	T	T
15	F	F
16	F	T
17	T	F
18	T	T
19	F	F
20	F	T

The measures should be scored by counting the number of correct answers for each participant. Items marked "Don't Know" or left blank should be scored as incorrect. Count the number of correct answers for each participant. Next, total the correct answers for the group and divide by the number of participants in the group. The mean number of correct answers and the standard deviation can be used to summarize participant performance on the measure. Means and standard deviations from before and after the program can be compared to determine changes in participants' knowledge.

PROBLEM DRINKING

Form A

The following sentences are about problem drinking. Put a check to show whether you think each sentence is TRUE or FALSE. If you don't know whether a sentence is true or false, put a check under DON'T KNOW.

True	False	Don't Know	
( )	( )	( )	1. Problem drinkers can often drink throughout the day without appearing to be drunk.
( )	( )	( )	2. Alcoholism runs in families.
( )	( )	( )	3. Problem drinkers do not like being asked about their drinking.
( )	( )	( )	4. Although they may have many drinks, problem drinkers usually try to make each drink last as long as possible.
( )	( )	( )	5. Drinking with people who drink a lot will not increase a person's chance of becoming a problem drinker.
( )	( )	( )	6. Sneaking drinks is a sign of problem drinking.
( )	( )	( )	7. Only certain types of people are likely to develop a drinking problem.
( )	( )	( )	8. Problem drinkers often feel guilty about their drinking.
( )	( )	( )	9. Problem drinkers often drink more when they feel stress.
( )	( )	( )	10. Problem drinkers often neglect proper eating habits.
( )	( )	( )	11. Problem drinkers do not usually drink beer.
( )	( )	( )	12. Expressing disappointment when drinks are not served at a party is a sign of problem drinking.
( )	( )	( )	13. Problem drinkers tend to be underweight.

True	False	Don't Know	
( )	( )	( )	14. Drinking before noon is a sign of problem drinking.
( )	( )	( )	15. Problem drinkers limit their drinking to one specific kind of alcoholic beverage.
( )	( )	( )	16. Problem drinkers get drunk on less alcohol than do occasional drinkers.
( )	( )	( )	17. Making promises to quit drinking is a sign of problem drinking.
( )	( )	( )	18. Problem drinkers often drink to relieve boredom or loneliness.
( )	( )	( )	19. Problem drinkers drink the same amount of liquor every day.
( )	( )	( )	20. Interest in learning more about alcoholism is a sign of problem drinking.

PROBLEM DRINKING

Form B

The following sentences are about problem drinking. Put a check to show whether you think each sentence is TRUE or FALSE. If you don't know whether a sentence is true or false, put a check under DON'T KNOW.

True	False	Don't Know	
( )	( )	( )	1. Problem drinkers cannot drink without getting drunk.
( )	( )	( )	2. Unlike other regular drug users, problem drinkers rarely experience personality changes.
( )	( )	( )	3. Feeling uncomfortable when liquor is not available is a sign of problem drinking.
( )	( )	( )	4. Problem drinkers seldom feel guilty about their drinking.
( )	( )	( )	5. Problem drinkers tend to be overweight.
( )	( )	( )	6. Only people with a certain type of personality develop drinking problems.
( )	( )	( )	7. Children of alcoholic parents are more likely than other children to develop a drinking problem.
( )	( )	( )	8. Problem drinkers are sometimes unable to remember what happened while they were drinking.
( )	( )	( )	9. Problem drinkers typically have good eating habits.
( )	( )	( )	10. Problem drinkers tend to have periods of nonstop drinking.
( )	( )	( )	11. Problem drinkers are usually satisfied with themselves and their lives.
( )	( )	( )	12. Problem drinkers only drink hard liquor.
( )	( )	( )	13. Drinking more rapidly than other people is a sign of problem drinking.

True	**False**	**Don't Know**	
( )	( )	( )	14. A problem drinker must drink more alcohol than an occasional drinker in order to get drunk.
( )	( )	( )	15. Problem drinkers drink less alcohol when they are under stress.
( )	( )	( )	16. Problem drinkers look for occasions to drink if none exist.
( )	( )	( )	17. Problem drinkers rarely pressure others to drink with them.
( )	( )	( )	18. Lying about drinking is a sign of problem drinking.
( )	( )	( )	19. Problem drinkers usually avoid drinking alone.
( )	( )	( )	20. Needing alcohol to feel good is a sign of problem drinking.

SYSTEMATIC DECISION MAKING

(FORMS A & B)

This skill measure assesses participants' ability to identify the steps in a systematic decision-making process. This measure is appropriate for adults.

Decision making has been conceptualized in many ways. This measure assumes decision making to be a systematic process involving five steps: (1) identifying/clarifying the decision to be made, (2) identifying possible decision options, (3) gathering/processing information, (4) making/implementing the decision, and (5) evaluating the decision. The decision-making instruments in this handbook evaluate only this decision-making model and should not be used to evaluate general decision-making ability.

PURPOSE

Information regarding participants' knowledge of systematic decision-making processes may be useful for the following reasons:

- If a program intends to offer instruction in systematic decision making, this measure can be administered prior to and following that program to evaluate changes in participants' knowledge.

Because this instrument assesses a particular model of decision making, it is unlikely that a pretest will yield information of value. It should *not* be assumed that low pretest scores on this measure correlate with a lack of general decision-making ability.

PROCEDURES

Because the equidifficulty of the forms has not been established, it is best not to give all participants Form A as a pretest and Form B as a posttest. Instead, choose either of the following methods.

- Review Forms A and B and select one. Give all participants the selected form both before and after the program. Alternatively, select five items from the two forms and construct a single measure. Then administer the "new" form both before and after the program.
- Give Form A to half of the incoming participants and Form B to the remaining half. To distribute the forms randomly, order them "ABABAB" and hand them out. Following the program, give each participant the form not previously taken. For example, if a participant was given Form B before the program, then that participant should be given Form A following the program. This approach eliminates the possibility that examinees will be sensitized to the specific facts to be learned from the program.

SCORING AND ANALYSIS

The answer keys for the two forms are provided below:

Item No.	Form A	Form B
1	D	D
2	C	A
3	A	A
4	B	B
5	A	C
6	B	C
7	D	D
8	C	B
9	B	D
10	C	B

The measures should be scored by counting the number of correct answers for each participant. Blank items should be scored as incorrect. Count the number of correct answers for each participant. Next, total the correct answers for the group and divide by the number of participants in the group. The mean number of correct answers and the standard deviation can be used to summarize participant performance on the measure. Means and standard deviations from before and after the program can be compared to determine changes in participant skill.

SYSTEMATIC DECISION MAKING

Form A

This test presents descriptions of people who are trying to make decisions that may affect their health or the health of others. Read each item. Circle the letter of the *next* step that the person should take in order to be making decisions using a *systematic approach.*

1. Cindy has been invited to a party where other people will probably be smoking marijuana. Cindy has never smoked marijuana, but she is curious about it. She wants to decide what to do if someone at the party offers her marijuana. Cindy thinks about what she might do. She also thinks what her best friend would do. Cindy goes to the library and reads some books on marijuana. She decides not to smoke at the party. While at the party, Cindy is offered marijuana several times but turns down the offers.

   What is the best thing for Cindy to do *next* in order to use the systematic decision-making approach?

   A. Ask her friends if they have ever smoked marijuana.

   B. Think about whether she's happy about her decision.

   C. Avoid the people who offered her marijuana at the party.

   D. Read more books about marijuana.

2. Nancy lives near the beach and enjoys swimming in the ocean. During the winter it gets dark before she gets home from work and the water is too cold for her to swim. She doesn't want to give up exercising because it makes her feel good. Nancy knows that she needs to decide on another type of exercise to do during the winter. She thinks about her options and considers the advantages and disadvantages of each. She picks three types of exercise and tries each one for a week before making her final decision. She likes running the best and decides to start running three times a week.

   What is the best thing for Nancy to do *next* in order to use the systematic decision-making approach?

   A. Try a different exercise after a while.

   B. Think about what other types of exercise she likes.

   C. Think about whether she is satisfied with her decision to run.

   D. Start running five times a week.

3. Phil works in a very busy office. He has a great deal of work to do and sometimes is unable to finish it on time. Phil feels that he is under stress at work and he wants to find a good way to reduce it. He makes a list of all the ways that he knows of to reduce stress at work.

   What is the best thing for Phil to do *next* in order to use the systematic decision-making approach?

   A. Get more information about each of the ideas on his list.

   B. Pick one of the ideas on his list.

   C. Ask his doctor to choose a good way for him to reduce the stress at work.

   D. Realize that he must find an appropriate way to reduce the stress at work.

4. Maria wants to take her son to be immunized at a local clinic as soon as possible. The clinic is always busy. Maria can get an appointment for her child, but only on a day when she has an important business meeting.

   In two months, Maria's son has an appointment with his regular doctor for a routine checkup. Maria realizes that she must decide whether to take her child to the clinic or wait two months and have her child immunized during his routine checkup. Maria thinks about her choices. She also thinks about what she would do if her child got sick because he was not immunized. She calls her doctor and the clinic to find out if it is safe to wait.

   What is the best thing for Maria to do *next* in order to use the systematic decision-making approach?

   A. Think about the possible choices that are available to her.

   B. Decide what to do about immunizing her son.

   C. Ask her doctor to make the decision about immunizing her son.

   D. Complain to the receptionist at the clinic that there aren't enough nurses giving immunizations.

5. Sol is overweight. His wife recently lost 10 pounds and he wants to lose weight too. He realizes that he must decide how he's going to do it. He talks about the situation with his wife. He realizes that he will either have to go on a diet, start exercising regularly, or do both. Sol calls his doctor to get advice. The doctor says that regular exercise may reduce Sol's appetite so that it will be easier to stay on a diet. The doctor suggests that Sol try to diet and exercise. Sol, however, doesn't like exercising so he goes on a diet only for three weeks.

   What is the best thing for Sol to do *next* in order to use the systematic decision-making approach?

   A. Think about whether he is satisfied with his decision to lose weight by dieting.

   B. Read books about exercise and weight loss.

   C. Stay on his diet for at least another week.

   D. Start a running program in order to follow his doctor's advice about exercising.

6. Terri has not been feeling well for the past few months. She went to her doctor for some tests and was informed that she has cancer. She is frightened that she will become a terrible burden for her family and, eventually, die of her illness. However, Terri knows that she must make a decision about what she is going to do. After talking with several doctors, she learned that she has several options. She could undergo chemotherapy or radiation therapy. She could enter an experimental drug treatment program, or she could just wait to see if her health improves. She talks to her husband about her feelings and fears.

   What is the best thing for Terri to do *next* in order to use the systematic decision-making approach?

   A. Decide to wait and see if her illness gets better on its own.

   B. Get more information about each of her treatment options.

   C. Go to another doctor to get a different opinion.

   D. Go on a vacation with her family to help her forget about her problem.

7. Todd drinks every day and he often drinks by himself. He frequently can't remember things that happened after drinking. Todd has tried to quit drinking many times but has been unsuccessful. Todd is afraid he might lose his job if anyone finds out about his drinking.

   What is the best thing for Todd to do *next* in order to use the systematic decision-making approach?

   A. Take a week off from work and try to stop drinking on his own.

   B. Ask his doctor to select a drinking program for him to attend.

   C. Read some articles about drinking and its effects on health.

   D. Realize that he must decide what kind of help to get to reduce his drinking.

8. Following a heart attack, Ricardo's doctor told him that it is extremely important that he stop smoking. Ricardo has been wanting to quit and now is determined that he will. He is aware that there are many programs to help people quit smoking. He realizes that he must pick one of the approaches. He talks to several ex-smokers to get ideas on how to stop smoking. He gets more information from his doctor about each approach. He also thinks about which approach sounds right for him.

   What is the best thing for Ricardo to do *next* in order to use the systematic decision-making approach?

   A. Ask his doctor to select a program for him.

   B. Read some books about the effects of smoking.

   C. Enroll in a stop-smoking program.

   D. Find out what types of programs are available.

9. Steve goes cross-country skiing every winter. However, he does not get much exercise the rest of the year. As a result, he gets very sore muscles at the beginning of the ski season. Steve also tires easily and often cannot ski a full day because he is out of shape. Only by the middle of the season does he feel like he's in good enough shape to ski his best. He has heard that skiing can be dangerous when you're not in shape. He realizes he must decide on a regular fitness plan to prepare him for skiing.

   What is the best thing for Steve to do *next* in order to use the systematic decision-making approach?

   A. Wait until next season to start worrying about how he will get in shape.

   B. Talk to other skiers to find out how they stay in condition during the off season.

   C. Start a running program to help him stay in shape.

   D. Realize he might get hurt if he doesn't get in shape before ski season.

10. Carolyn was recently told that her daughter has diabetes. Her daughter is ten years old. The doctor outlined the treatment program that must be followed. It includes changes in diet, insulin injections, and regular monitoring of blood sugar levels. Carolyn realizes that she must decide what parts of the treatment program her daughter can handle for herself. She thinks about the options that are available. These options range from her daughter taking responsibility for many parts of the treatment to Carolyn's assuming total responsibility.

    What is the best thing for Carolyn to do *next* in order to use the systematic decision-making approach?

    A. Ask her doctor to decide which parts of the treatment her daughter can handle.

    B. Decide to help her daughter with the entire treatment program.

    C. Talk to other families to see how they divide up the treatment management program.

    D. Have her daughter decide which parts of the treatment she can manage.

SYSTEMATIC DECISION MAKING

Form B

This test presents descriptions of people who are trying to make decisions that may affect their health or the health of others. Read each item. Circle the letter of the *next* step that the person should take in order to be making decisions using a *systematic approach*.

1. Steve and Maria have been dating for a year and a half. Their relationship has always been very good. However, two months ago something changed. They began to argue constantly. Even though they still care for each other, they decided to break up for awhile.

   Since they broke up, Steve has been very bored. He is feeling very stressed because he has nothing to do. Spending time with his friends reminds him of Maria. He realizes he must find something to occupy his free time. He talks with a co-worker about joining the company softball team. He also gets some information on adult education classes offered at the community college.

   What is the best thing for Steve to do *next* in order to use the systematic decision-making approach?

   A. Take a class on maintaining healthy relationships.

   B. Think about the good and bad points of each of his ideas.

   C. Ask Maria to help him decide what he should do with his free time.

   D. Decide not to get involved in anything just in case Maria wants to get back together with him.

2. Bruce wants to stop smoking. His son is eight years old and Bruce has heard that children are more likely to smoke if their parents smoke. He does not want to be a bad example for his young son. He knows he will need help quitting because he has tried to quit on his own before and failed. He asks some ex-smokers about stop-smoking programs. He then talks with the director of each program regarding its success rate. He also considers what approach he would be most comfortable with.

   What is the best thing for Bruce to do *next* in order to use the systematic decision-making approach?

   A. Pick a stop-smoking program to enroll in.

   B. Ask his wife to decide which program he should join.

   C. Realize he needs to pick a way to quit smoking.

   D. Talk with his son about the dangers of smoking.

3. Stan is overweight. He has tried a number of diets but cannot stay on them more than a couple of weeks. He seems to have pattern of losing 5 pounds and then gaining them right back. He knows that being overweight is unhealthy. He is even unhappy with the way he looks.

   What is the best thing for Stan to do *next* in order to use the systematic decision-making approach?

   A. Realize he must decide how to change his eating habits permanently.

   B. Take a class at a weight reduction clinic.

   C. Ask a friend who is also on a diet how to lose weight.

   D. Think about all the possible ways he could lose weight and keep it off.

4. David has made some big changes in his life. He moved and will also be starting a new school in a few weeks. He is very nervous about school.

   David recognizes that all these changes may cause stress. He also knows there are ways to reduce it. He wants to choose a way to reduce some of the stress he's feeling.

   What is the best thing for David to do *next* in order to use the systematic decision-making approach?

   A. Start a regular exercise program.

   B. Think about the things he likes to do that seem to relax him.

   C. Decide on a way to relieve the stress he feels.

   D. Ask his family to choose a way for him to reduce stress.

5. Valerie is going to have a baby. She wants to make sure that she and the baby are healthy. She has changed her diet and does not drink or smoke. Her doctor told her that exercise is also very important. She has not exercised regularly for several years. She realizes that she needs to decide on an exercise plan that will not be too hard. She talks about the matter with her doctor. They come up with several ideas.

   What is the best thing for Valerie to do *next* in order to use the systematic decision-making approach?

   A. See how she feels without exercising before she starts to exercise.

   B. Ask her doctor to pick an exercise plan for her.

   C. Think about which type of exercise she prefers.

   D. Realize that she must decide on an exercise plan.

6. At an annual check-up, Gloria's doctor recommended that she get a flu shot. He said that it was not essential, but would be wise due to her age. Gloria knows that she must decide whether or not to get a flu shot. She thinks about the consequences of getting or not getting the shot. She gets some information on the shot from her doctor and the community health department. After considering all the information carefully, she thinks about what would be best for her.

   What is the best thing for Gloria to do *next* in order to use the systematic decision-making approach?

   A. Realize that she has to decide whether to get a flu shot.

   B. Follow her doctor's recommendation even if she has doubts about it.

   C. Decide whether or not to follow her doctor's recommendation.

   D. Ask her husband to decide whether or not she should get a flu shot.

7. Phyllis works for the Westinger Company. For the last few months Phyllis has been swimming during lunch hour. She enjoys the swim and is pleased with the improvement in her health and appearance.

   Her boss now wants Phyllis to attend planning meetings that will be held almost every day for the next couple of months at lunch time. She tells Phyllis that attending the meetings will be important for her growth in the company.

   What is the best thing for Phyllis to do *next* in order to use the systematic decision-making approach?

   A. Choose between swimming and attending the planning meetings.

   B. Try to convince her boss that she doesn't need to attend the planning meetings.

   C. Decide not to swim at lunch anymore.

   D. Realize that she must choose whether to swim at lunch or attend the meetings.

8. Shelley recently moved into the dormitory for her first year of college. The students on her floor share a kitchen. Shelley soon finds that she is eating a great deal of quick, high-calorie snacks. She is gaining weight and doesn't feel as energetic as usual. She realizes that she needs to decide on a plan for eating more healthy meals.

   What is the best thing for Shelley to do *next* in order to use the systematic decision-making approach?

   A. Find out how much it would cost to eat in the university cafeteria.

   B. Think of the possible options that are available to her.

   C. Realize she needs to start eating balanced meals.

   D. Ask her mother to decide what she should do.

9. Derrik has been on a low-salt, low-fat diet for several months. He likes the diet, even though following it can be hard at times. He has to fix most of his meals himself from fresh foods.

   Some of Derrik's friends asked him to go on vacation with them. He wants to go but he knows that he won't be able to stay on his diet. Derrik realizes that he has a decision to make about going with his friends.

   What is the best thing for Derrik to do *next* in order to use the systematic decision-making approach?

   A. Decide not to go on vacation.

   B. Ask his friends what they would do if they were in his position.

   C. Find out the effects of going off his diet for several weeks.

   D. Try to think of all of his options in this situation.

10. Joyce wants to stop smoking. She knows that there are many ways to quit and that she should choose the best way for her. She discusses the matter with a friend. They come up with several plans. Joyce could stop smoking completely on a certain day or she could smoke a little less every day until she stops completely. She thinks about which approach would be easiest for her and talks to other people who have already quit smoking.

    Joyce decides to stop smoking gradually. At the start of every week she reduces the number of daily cigarettes she smokes by three. Unfortunately, Joyce isn't too happy with her new plan because she has trouble keeping track of the number of cigarettes she smokes.

    What is the best thing for Joyce to do *next* in order to use the systematic decision-making approach?

    A. Call up some stop-smoking clinics to find out about approaches they use.

    B. Think again about her decision to stop smoking.

    C. Stick with her decision for at least a month regardless of how she feels about it.

    D. Give up on the gradual approach and stop smoking completely on a particular day.

MAKING DECISIONS

(FORMS A & B)

This skill measure assesses participants' ability to identify the steps in a systematic decision-making process. This measure is appropriate for adolescents and preadolescents.

Decision making has been conceptualized in many ways. This measure assumes decision making to be a systematic process involving five steps: (1) identifying/clarifying the decision to be made, (2) identifying possible decision options, (3) gathering/processing information, (4) making/implementing the decision, and (5) evaluating the decision. The decision-making instruments in this handbook evaluate only this decision-making model and should not be used to evaluate general decision-making ability.

PURPOSE

Information regarding participants' knowledge of systematic decision-making processes may be useful for the following reasons:

- If a program intends to offer instruction in systematic decision making, this measure can be administered prior to and following that program to evaluate changes in participants' knowledge.

Because this instrument assesses a particular model of decision making, it is unlikely that a pretest will yield information of value. It should *not* be assumed that low pretest scores on this measure correlate with a lack of general decision-making ability.

PROCEDURES

Because the equidifficulty of the forms has not been established, it is best not to give all participants Form A as a pretest and Form B as a posttest. Instead, choose either of the following methods.

- Review Forms A and B and select one. Give all participants the selected form both before and after the program. Alternatively, select five items from the two forms and construct a single measure. Then administer the "new" form both before and after the program.
- Give Form A to half of the incoming participants and Form B to the remaining half. To distribute the forms randomly, order them "ABABAB" and hand them out. Following the program, give each participant the form not previously taken. For example, if a participant was given Form B before the program, then that participant should be given Form A following the program. This approach eliminates the possibility that examinees will be sensitized to the specific facts to be learned from the program.

SCORING AND ANALYSIS

The answer keys for the two forms are provided below:

Item No.	Form A	Form B
1	A	A
2	C	C
3	B	A
4	A	C
5	C	A
6	A	B
7	B	B
8	B	C
9	B	A
10	C	B

The measures should be scored by counting the number of correct answers for each participant. Items marked "Don't know" or left blank should be scored as incorrect. Count the number of correct answers for each participant. Next, total the correct answers for the group and divide by the number of participants in the group. The mean number of correct answers and the standard deviation can be used to summarize participant performance on the measure. Means and standard deviations from before and after the program can be compared to determine changes in participant skill.

MAKING DECISIONS

Form A

These stories are about young people who are trying to make decisions. Read each one. Circle the letter of the *next* thing that the person should do in order to be making a decision in the best way. If you are unsure what the person should do, circle DON'T KNOW.

1. Barbara is about 20 pounds overweight. She really wants to lose weight because she thinks she will feel better about herself. However, she finds it very hard. She knows she needs to pick a way to lose weight. She asks her older sister to help her make a list of ways. She can exercise more, take diet pills, or go on a planned diet. Barbara thinks about the good and bad points of each idea. She decides to go on a planned diet.

   What should Barbara do *next* in order to be making a decision in the best way?

   A. Try the diet for a while and think about whether she is happy about her decision.

   B. Stay on the diet for at least 6 months even if she doesn't lose as much weight as she wants to.

   C. Ask her sister to pick a diet for her to go on.

   D. Don't know

2. Sally has seen kids smoking in the bathrooms at lunch and out on the playground after school. Some of Sally's friends have even tried smoking cigarettes. She figures that her friends may ask her to try a cigarette soon.

   What should Sally do *next* in order to be making a decision in the best way?

   A. Ask her best friend what she should do.

   B. Decide to try smoking just one cigarette.

   C. Know that she must decide whether to smoke cigarettes or not.

   D. Don't know

3. Karen has diabetes and should not eat sweet foods. She is invited to her friend Anne's party. Karen wants to go but she thinks that it might be hard not to eat any of the sweets at the party. Karen knows that she must decide what she should do about the party.

   She talks to her stepmother about the problem. Together they make a list of things that Karen could do: (1) Karen could go to the party after the other kids finish eating, (2) Karen could eat some sweets at the party, or (3) Karen could eat something besides sweets at the party.

   What should Karen do *next* in order to be making a decision in the best way?

   A. Decide what to do about the party and stop thinking about it.

   B. Call Anne and her doctor's office to get more information.

   C. Ask Anne to decide what she should do about going to the party.

   D. Don't know

4. Lionel has to give a book report in his class next week. He is very worried about talking in front of the class. The other kids in class always make jokes when people seem scared while speaking in front of the class. Lionel knows he needs to find a way to be less nervous. He asks his dad if he has any ideas. His dad lists some things that Lionel might try. For example, Lionel could write down what he will say or practice the speech aloud. His teacher adds some ideas to the list. Lionel thinks about what he wants to do.

   What should Lionel do *next* in order to be making a decision in the best way?

   A. Decide to practice the speech in front of his dad.

   B. Ask his teacher to decide what he should do.

   C. Know that he has a decision to make.

   D. Don't know

5. Evelyn is going to a party. She thinks that some of her friends might have marijuana at the party. Evelyn has never smoked marijuana, but she thinks that she might be asked to try some.

   Evelyn knows that she has to decide what she will do if someone at the party offers her marijuana. She thinks about the good and bad points of smoking or not smoking marijuana. She goes to the library to get some information about marijuana. Evelyn also thinks about what her parents would think if she smoked marijuana.

   What should Evelyn do *next* in order to be making a decision in the best way?

   A. Decide not to go to any parties ever again.

   B. Ask her friends if they have every tried marijuana before.

   C. Decide whether she wants to smoke marijuana at the party.

   D. Don't know

6. Mark is a little overweight and the other kids tease him about it. He is tired of being teased about his weight. He knows if he was more active he would probably lose weight. He would rather exercise than go on a diet. He knows he must decide on some ways to be more active. He talked with his older brother and they came up with some ideas. He could run, swim, or ride his bike to school.

   He thinks about the kinds of exercise he likes best. He decides to start riding his bike to school. He tries this for a few weeks.

   What should Mark do *next* in order to be making a decision in the best way?

   A. Think about whether his decision is working.

   B. Know he must decide on an exercise plan.

   C. Stick with his decision even if he doesn't lose weight.

   D. Don't know

7. Rosalie has been going swimming with her best friend every day after school. She enjoys it very much. A group of Rosalie's other friends have just joined the computer club and want Rosalie to join too. Rosalie has wanted to join the club for a long time. The club meets everyday from 3:00 - 4:30. The pool where Rosalie swims is only open from 3:00 - 5:00.

   What should Rosalie do *next* in order to be making a decision in the best way?

   A. Keep swimming because she likes it so much.

   B. Know that she must decide whether to join the computer club or continue to swim at the pool.

   C. Have her best friend decide whether she should continue to swim or join the computer club.

   D. Don't know

8. Antonio tried smoking marijuana with some friends a few months ago. Since then he has started smoking more and more. He even smokes before school sometimes. Antonio is not doing as well in school as he used to. He is worried that his grades will go down and his parents will get mad. He thinks it may have something to do with smoking marijuana too much, but his friends expect him to smoke. He wants to find a way to stop smoking.

   What should Antonio do *next* in order to be making a decision in the best way?

   A. Decide to find new friends who do not smoke.

   B. Call a hotline to get information about ways to stop smoking marijuana.

   C. Know he must decide on a way to stop smoking marijuana.

   D. Don't know

9. Donna is upset about a big test she must take next week. Although she has been studying, she still feels nervous about the test. She thinks about how disappointed her teacher will be if she doesn't do well.

   Donna's teacher told her that there are many things a person can do to feel less nervous. Donna wants to find something that she can do to feel better about the test.

   What should Donna do *next* in order to be making a decision in the best way?

   A. Ask her friends to help her study for the test.

   B. Talk to her teacher about all the things she can do to feel less nervous.

   C. Sit quietly for a few minutes right before the test.

   D. Don't know

10. Pamela and her best friend want to go to the school dance Friday night, but they need a ride. Her friend's dad said he would take them to the dance, but can't pick them up. Pamela's older brother is going out with some friends that same night and said he would pick them up. Pamela knows her brother likes to drink with his friends. She knows she must decide whether or not to ride home with her brother.

    She and her friend think about what they could do. They could get a ride with Pamela's brother or could try to find another ride. If they can't find another ride they might not be able to go to the dance. Pamela asks some questions in her health class about drinking.

    What should Pamela do *next* in order to be making a decision in the best way?

    A. Know she must decide whether to get a ride from her brother.

    B. Have her friend decide whether they should get a ride with her brother.

    C. Decide whether to get a ride home from the dance with her brother.

    D. Don't know

MAKING DECISIONS

Form B

These stories are about young people who are trying to make decisions. Read each one. Circle the letter of the *next* thing that the person should do in order to be making a decision in the best way. If you are unsure what the person should do, circle DON'T KNOW.

1. Ken has a hard time playing sports because he is overweight. The other kids don't like to have him on their teams because he is so slow. He needs to lose weight and understands that there are many different ways to do it. Ken knows that he must decide on the way to lose weight.

   What should Ken do *next* in order to be making a decision in the best way?

   A. Get information about the good and bad points of each way to lose weight.

   B. Pick one way to try to lose weight.

   C. Start his diet and stay on it for at least one month.

   D. Don't know

2. Tyrone likes to play baseball. His coach told everyone on the team that they should do other types of exercise to get in shape for baseball. To be a better baseball player, Tyrone knows that he needs to decide on a regular exercise plan. The coach said that the best exercise would be running, swimming or riding a bike.

   What should Tyrone do *next* in order to be making a decision in the best way?

   A. Decide to start running every day.

   B. Know that he needs to do other exercise besides baseball.

   C. Think about what type of exercise he might enjoy.

   D. Don't know

3. Denise's dad has decided to move out of the house for a few months. Denise is very unhappy about his decision. She is worried that she won't get to see her dad very much. She cries a lot of the time and doesn't seem to be able to pay attention in school. She knows that she needs to get some kind of help to start feeling better. The school nurse talks with her about some programs for kids and their families. Denise also talks to her family about what to do. Denise thinks about what sounds best to her.

   What should Denise do *next* in order to be making a decision in the best way?

   A. Decide what she will do.

   B. Ask her mom to decide what she should do.

   C. Try not to see her dad for a while.

   D. Don't know

4. Jose and his family have just moved to a new neighborhood. Jose will be starting a new school. He is nervous because of all these changes, and wants to find a way to feel better.

   He talks to an older brother about his problem. They think of several different things Jose could do to feel less nervous. Jose could swim at the neighborhood pool after school, learn to play guitar, or join a school club.

   Jose calls to find out what time the pool is open. He talks to his family about whether he could take guitar lessons, and talks to some people at school about different clubs they have there. Jose also thinks about what he would like to do.

   What should Jose do *next* in order to be making a decision in the best way?

   A. Make a list of all the possible ways to feel less nervous.

   B. Try not to think about how nervous he feels.

   C. Decide whether he wants to swim, take guitar lessons, or join a school club.

   D. Don't know

5. Anita's parents have agreed she can have some friends over while they are out for the evening. She thinks that a few kids may bring beer. She knows she has to decide whether to allow drinking at her house. She thinks about what she could do. She could let her friends drink in the house. She could also let them drink outside, or tell everyone not to drink at her house at all. Anita thinks about the good and bad points of each idea. She also asks her older sister what she thinks.

   What should Anita do *next* in order to be making a decision in the best way?

   A. Decide whether to let kids drink at her party.

   B. Know she must decide whether to let kids drink at her party.

   C. Have her older sister decide what she should do about the party.

   D. Don't know

6. James wants to start playing some kind of team sport. He knows that there are many different sports to choose from. He wants to pick a sport that he can be good at and will enjoy. He also wants to pick a sport most of his friends like to play.

   James talks to his father about his idea. Together they think of all the different team sports that James might like to play. Then James talks to his physical education teacher to see which sports he thinks James might be good at. James also thinks about which sport he might like best.

   James decides that he would like to play basketball. He signs up for the team and goes to practice every day for a month.

   What should James do *next* in order to be making a decision in the best way?

   A. Try another sport next month.

   B. Think about whether he's happy with his decision.

   C. Have a party for the basketball team.

   D. Don't know

7. Mike has been asked to spend the night with his friend Phil next Friday. Phil told Mike that his parents will be out that evening and that he has some cigarettes they can smoke. Although some of Mike's friends have started smoking, Mike has never smoked a cigarette before.

   What should Mike do *next* in order to be making a decision in the best way?

   A. Talk to his parents about smoking.

   B. Know that he must decide whether he will smoke cigarettes.

   C. Plan on smoking just one cigarette with Phil so that he will know what it's like.

   D. Don't know

8. Thomas goes to the park almost every afternoon to play. Some of his friends have started drinking beer at the park. One of them told Thomas that he could taste some beer the next time they have some. Thomas has never had beer before, but he has wondered what it's like.

   Thomas knows that he must decide whether or not he wants to drink any beer. He thinks about the different things he might do. He asks some questions in his health class about drinking. He also thinks about how his parents would feel if they found out. He decides to try some beer because he doesn't want his friends to think he's a chicken.

   The next time Thomas is in the park he drinks beer with his friends.

   What should Thomas do *next* in order to be making a decision in the best way?

   A. Stay away from the park for a while.

   B. Understand that his friends were wrong to ask him to drink with them.

   C. Think about how he feels about his decision to drink beer.

   D. Don't know

9. Darla goes to school in the morning before her family gets up. On most days she skips breakfast. Although Darla knows she should eat breakfast, she feels as if she doesn't have enough time. At school she gets really hungry and has a hard time paying attention. Darla knows she needs to decide how she can find time to eat before she goes to school. She thinks of things she could do. She could get up earlier or she could think of ways to save time in the morning. For example, she could shower and pick out her school clothes the night before.

   What should Darla do *next* in order to be making a decision in the best way?

   A. Think about the good and bad points of each idea.

   B. Try getting up earlier to make her breakfast.

   C. Ask her stepmother to decide what she should do.

   D. Don't know

10. Greg and his sister fight all the time. His sister takes his things without asking, and hangs around when his friends are over. She makes him so mad that he ends up screaming at her nearly every day. He often gets in trouble for his behavior and gets punished by his father. He knows he has to find a way not to get so mad.

    What should Greg do *next* in order to be making a decision in the best way?

    A. Decide not to pay attention to his sister no matter what she does.

    B. Make a list of things he can do to deal with his sister.

    C. Ask his father to decide what he should do.

    D. Don't know

REFRAINING FROM DRINKING

This affective measure assesses participants' perceptions regarding their ability to refrain from drinking. This measure is appropriate for adults.

PURPOSE

Having affective information about participants' perceptions regarding their ability to refrain from drinking may be useful in the following ways:

- Administration of this measure at the beginning of the program may provide needs assessment information. For example, results of this measure may show that participants' perceived ability to refrain from drinking is weak, thus indicating a need for participant training in that area.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' perceptions regarding their ability to refrain from drinking.

PROCEDURES

This instrument can be administered both at the beginning and at the end of the program. However, handbook users should be alert to concerns regarding the potential reactivity of affective measures. A measure is considered *reactive* if the experience of completing the measure prior to the program causes participants to react differently to the program. Handbook users should, therefore, carefully review each affective measure that they wish to use to determine its potential for making participants unduly sensitive to aspects of the program. If a measure is determined to be reactive, then program personnel should *not* administer that measure to *all* participants as a pretest and posttest. Instead, the measure could be administered to half of the program participants prior to program participation to determine participants' pre-program status. The measure could then be administered to the other half of the participants after program participation to assess participants' post-program status.

SCORING AND ANALYSIS

Point values are assigned to response options as follows:

Definitely Yes = 5
Probably Yes = 4
Maybe = 3
Probably No = 2
Definitely No = 1

This inventory can be scored by adding the point values of the responses from all participants and dividing this total by the number of responses. Blank items should not be counted in the number of responses. The maximum attainable score of 5 points indicates a strong perceived ability to refrain from drinking across a variety of potential drinking situations. A minimum score of 1 indicates a weak perceived ability to refrain from drinking in a variety of situations.

REFRAINING FROM DRINKING

This survey describes times when people often feel an urge to drink. Put a check to show how sure you are that you could refrain or keep from drinking in each situation.

Could you refrain from drinking if . . .	**Definitely Yes**	**Probably Yes**	**Maybe**	**Probably No**	**Definitely No**
1. you were eating an enjoyable meal?	( )	( )	( )	( )	( )
2. you were watching television?	( )	( )	( )	( )	( )
3. you were visiting friends, some of whom were drinking?	( )	( )	( )	( )	( )
4. you had just completed a difficult task that had taken you a long time to finish?	( )	( )	( )	( )	( )
5. you were tense and anxious?	( )	( )	( )	( )	( )
6. you were reading a newspaper or magazine?	( )	( )	( )	( )	( )
7. you were talking on the telephone?	( )	( )	( )	( )	( )
8. you had just had a big argument with someone in your family?	( )	( )	( )	( )	( )
9. you were relaxing after a busy day?	( )	( )	( )	( )	( )
10. you hadn't had a drink in a while and someone offered you one?	( )	( )	( )	( )	( )

Could you refrain from drinking if . . .	Definitely Yes	Probably Yes	Maybe	Probably No	Definitely No
11. you were waiting for a very important phone call that was fifteen minutes late?	( )	( )	( )	( )	( )
12. you were at a party and someone offered you a drink?	( )	( )	( )	( )	( )
13. you were at a sporting or entertainment event?	( )	( )	( )	( )	( )
14. you felt as if you really needed to drink?	( )	( )	( )	( )	( )
15. you were with a friend who urged you to drink?	( )	( )	( )	( )	( )
16. you were meeting a few friends in a bar or cocktail lounge?	( )	( )	( )	( )	( )
17. you were alone and feeling depressed?	( )	( )	( )	( )	( )
18. you were celebrating a special occasion?	( )	( )	( )	( )	( )
19. you were doing paperwork such as studying, paying bills, or writing a letter?	( )	( )	( )	( )	( )
20. you wanted to feel more sophisticated and attractive?	( )	( )	( )	( )	( )
21. you were bored?	( )	( )	( )	( )	( )
22. Could you refrain from drinking regardless of the circumstances?	( )	( )	( )	( )	( )

DRINKING SITUATIONS

This affective measure assesses participants' perceptions regarding their ability to refrain from drinking. This measure is appropriate for adolescents and preadolescents.

PURPOSE

Having information about participants' perceptions regarding their ability to refrain from drinking may be useful in the following ways:

- Administration of this measure at the beginning of the program may provide needs assessment information. For example, results of this measure may show that participants' perceived ability to refrain from drinking is weak, thus indicating a need for participant training in that area.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' perceptions regarding their ability to refrain from drinking.

PROCEDURES

This instrument can be administered both at the beginning and at the end of the program. However, handbook users should be alert to concerns regarding the potential reactivity of affective measures. A measure is considered *reactive* if the experience of completing the measure prior to the program causes participants to react differently to the program. Handbook users should, therefore, carefully review each affective measure that they wish to use to determine its potential for making participants unduly sensitive to aspects of the program. If a measure is determined to be reactive, then program personnel should *not* administer that measure to *all* participants as a pretest and posttest. Instead, the measure could be administered to half of the program participants prior to program participation to determine participants' pre-program status. The measure could then be administered to the other half of the participants after program participation to assess participants' post-program status.

SCORING AND ANALYSIS

Point values are assigned to response options as follows:

Definitely Yes = 5
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Definitely No = 1

This inventory can be scored by adding the point values of the responses from all participants and dividing this total by the number of responses. Blank items should not be counted in the number of responses. The maximum attainable score of 5 points indicates a strong perceived ability to refrain from drinking across a variety of potential drinking situations. A minimum score of 1 indicates a perceived weak ability to refrain from drinking in a variety of situations.

DRINKING SITUATIONS

Young people sometimes find themselves in situations in which they feel pressure to drink. Some of these situations are described below. Put a check to show how sure you are that you could *keep from drinking* in each situation.

	Definitely Yes	Probably Yes	Maybe	Probably No	Definitely No
1. You're invited to a party with the most popular kids at school. Many people are drinking. As you talk in a small group, someone offers you a drink. Could you keep from drinking?	( )	( )	( )	( )	( )
2. You go to a friend's house to study. Your friend suggests that you both try a drink. No one but your friend would know. Could you keep from drinking?	( )	( )	( )	( )	( )
3. You're at a football game with a new friend and her friends who are passing around a drink. Your friend takes a drink and hands it to you. Could you keep from drinking?	( )	( )	( )	( )	( )
4. Your parents have several bottles of alcohol in the cupboard. You're all alone at home. It would be easy to try a drink. Could you keep from drinking?	( )	( )	( )	( )	( )

	Definitely Yes	Probably Yes	Maybe	Probably No	Definitely No
5. You're watching T.V. at your uncle's house. He joins you and brings in a drink. He's in a good mood and offers you a sip. You know he'll tease you if you don't give it a try. Could you keep from drinking?	( )	( )	( )	( )	( )
6. You're at a dance and have met someone you think is really nice. When you take a walk outside you find out your new friend drinks. Could you keep from drinking?	( )	( )	( )	( )	( )
7. You're walking home from school with some friends. One of them passes a bottle of alcohol around and everybody takes a drink. Could you keep from drinking?	( )	( )	( )	( )	( )
8. You decide to have a party on a weekend that your parents are gone. Your best friend brings some alcohol to have around in case people want to drink. Later, it seems like a lot of people are drinking. Could you keep from drinking?	( )	( )	( )	( )	( )
9. Your friends decide to have some drinks before they go to a school dance. You don't want to be left out of the group. Could you keep from drinking?	( )	( )	( )	( )	( )

		Definitely Yes	Probably Yes	Maybe	Probably No	Definitely No
10.	You've just moved to a new neighborhood. A group of kids at your new school have been really nice to you. You would like to be part of their group. Most of them drink. Could you keep from drinking?	( )	( )	( )	( )	( )

HAVE A DRINK?

This affective measure assesses participants' perceived ability to avoid drinking in situations where people might typically drink alcoholic beverages. This measure is appropriate for adults.

PURPOSE

Having information about participants' perceptions regarding their ability to avoid drinking may be useful in the following ways:

- Administration of this measure at the beginning of the program may provide needs assessment information. For example, results of this measure may indicate a weak perceived ability to avoid drinking, thus indicating a need for participant training in that area.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' perceptions regarding their ability to refrain from drinking.

PROCEDURES

This instrument can be administered both at the beginning and at the end of the program. However, handbook users should be alert to concerns regarding the potential reactivity of affective measures. A measure is considered *reactive* if the experience of completing the measure prior to the program causes participants to react differently to the program. Handbook users should, therefore, carefully review each affective measure that they wish to use to determine its potential for making participants unduly sensitive to aspects of the program. If a measure is determined to be reactive, then program personnel should *not* administer that measure to *all* participants as a pretest and posttest. Instead, the measure could be administered to half of the program participants prior to program participation to determine participants' pre-program status. The measure could then be administered to the other half of the participants after program participation to assess participants' post-program status.

SCORING AND ANALYSIS

- **Situational Factors: Questions 1a-12a**

  Point values are assigned to response options as follows:

  Probably yes = 3
  Maybe = 2
  Probably no = 1

  This inventory can be scored by adding the point values of the responses from all participants and dividing this total by the number of responses. Blank items should not be counted in the number of responses. The maximum attainable score of 3 points indicates a strong perceived ability to refrain from drinking in a variety of situations. A minimum score of 1 indicates a perceived *inability* to refrain from drinking in a variety of situations.

- **Avoiding Drinking: Questions 1b-12b**

Point values are assigned to responses as follows:

Very successful = 3
A little successful = 2
Not successful at all = 1

This inventory can be scored by adding the point values of the responses from all participants and dividing this total by the number of responses. Blank items should not be counted in the number of responses. The maximum attainable score of 3 points indicates a strong perceived ability to avoid drinking in a variety of situations. A minimum score of 1 indicates a perceived *inability* to refrain from drinking in a variety of situations.

HAVE A DRINK?

This survey describes various situations in which people often drink alcohol. First, put a check to show whether or not the situation leads you to want to have a drink. Then, put a check to show how successful you would be at avoiding drinking in that situation.

1a. You come home after a busy and frustrating day. You feel very tense and need to relax. Would this situation lead you to want a drink?

( ) Probably yes
( ) Maybe
( ) Probably no (if you checked this answer go to question 2a)

b. How successful would you be at avoiding drinking in this situation?

( ) Very successful
( ) A little successful
( ) Not successful at all

2a. It is Friday night and you have nothing to do. You have called several friends but no one is home. Would this situation lead you to want a drink?

( ) Probably yes
( ) Maybe
( ) Probably no (if you checked this answer go to question 3a)

b. How successful would you be at avoiding drinking in this situation?

( ) Very successful
( ) A little successful
( ) Not successful at all

3a. You are at a party where everyone is drinking, dancing, and having a good time. Would this situation lead you to want a drink?

( ) Probably yes
( ) Maybe
( ) Probably no (if you checked this answer go to question 4a)

b. How successful would you be at avoiding drinking in this situation?

( ) Very successful
( ) A little successful
( ) Not successful at all

4a. You are feeling very anxious about a future event at school or work. You fear that it will not go well. Would this situation lead you to want a drink?

( ) Probably yes
( ) Maybe
( ) Probably no (if you checked this answer go to question 5a)

b. How successful would you be at avoiding drinking in this situation?

( ) Very successful
( ) A little successful
( ) Not successful at all

5a. You are at a party where you know very few people and you feel uncomfortable. Would this situation lead you to want a drink?

( ) Probably yes
( ) Maybe
( ) Probably no (if you checked this answer go to question 6a)

b. How successful would you be at avoiding drinking in this situation?

( ) Very successful
( ) A little successful
( ) Not successful at all

6a. You are spending a quiet evening at home. You have just found a good movie on television and have settled in to watch it. Would this situation lead you to want a drink?

- ( ) Probably yes
- ( ) Maybe
- ( ) Probably no (if you checked this answer go to question 7a)

b. How successful would you be at avoiding drinking in this situation?

- ( ) Very successful
- ( ) A little successful
- ( ) Not successful at all

7a. You are celebrating a special occasion at your favorite restaurant with friends and family. Would this situation lead you to want a drink?

- ( ) Probably yes
- ( ) Maybe
- ( ) Probably no (if you checked this answer go to question 8a)

b. How successful would you be at avoiding drinking in this situation?

- ( ) Very successful
- ( ) A little successful
- ( ) Not successful at all

8a. You are at a sporting event with some friends. Everyone is drinking beer and having fun. Would this situation lead you to want a drink?

- ( ) Probably yes
- ( ) Maybe
- ( ) Probably no (if you checked this answer go to question 9a)

b. How successful would you be at avoiding drinking in this situation?

- ( ) Very successful
- ( ) A little successful
- ( ) Not successful at all

9a. You have just had a disagreement with a family member. You are upset because the two of you seem to be having a difficult time getting along these days. Would this situation lead you to want a drink?

( ) Probably yes
( ) Maybe
( ) Probably no (if you checked this answer go to question 10a)

b. How successful would you be at avoiding drinking in this situation?

( ) Very successful
( ) A little successful
( ) Not successful at all

10a. You are at a holiday party given by the company you work for. There is an open bar and most of your co-workers are drinking. Would this situation lead you to want a drink?

( ) Probably yes
( ) Maybe
( ) Probably no (if you checked this answer go to question 11a)

b. How successful would you be at avoiding drinking in this situation?

( ) Very successful
( ) A little successful
( ) Not successful at all

11a. You were recently passed over for a promotion at work and feel very angry. Would this situation lead you to want a drink?

( ) Probably yes
( ) Maybe
( ) Probably no (if you checked this answer go to question 12a)

b. How successful would you be at avoiding drinking in this situation?

( ) Very successful
( ) A little successful
( ) Not successful at all

12a. You finished a project today that required a lot of time and effort. It did not turn out as well as you had hoped. Would this situation lead you to want a drink?

( ) Probably yes
( ) Maybe
( ) Probably no (stop if you checked this answer)

b. How successful would you be at avoiding drinking in this situation?

( ) Very successful
( ) A little successful
( ) Not successful at all

IDEAS ABOUT ALCOHOL USE

This affective measure assesses participants' perceived consequences of alcohol use. This measure is appropriate for adults, but inappropriate for lifetime abstainers.

PURPOSE

Having information about participants' perceptions regarding consequences of alcohol use may be useful in the following ways:

- Administration of this measure at the beginning of the program may provide needs assessment information. For example, results of this measure may indicate a lack of understanding regarding the perceived consequences of alcohol use, thus indicating a need for training in that area.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' perceptions of the consequences of alcohol use.

PROCEDURES

This instrument can be administered both at the beginning and at the end of the program. However, handbook users should be alert to concerns regarding the potential reactivity of affective measures. A measure is considered *reactive* if the experience of completing the measure prior to the program causes participants to react differently to the program. Handbook users should, therefore, carefully review each affective measure that they wish to use to determine its potential for making participants unduly sensitive to aspects of the program. If a measure is determined to be reactive, then program personnel should *not* administer that measure to *all* participants as a pretest and posttest. Instead, the measure could be administered to half of the program participants prior to program participation to determine participants' pre-program status. The measure could then be administered to the other half of the participants after program participation to assess participants' post-program status.

SCORING AND ANALYSIS

Point values are assigned to response options as follows:

Item No.	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
1	1	2	3	4	5
2	1	2	3	4	5
3	1	2	3	4	5
4	5	4	3	2	1
5	5	4	3	2	1
6	5	4	3	2	1
7	5	4	3	2	1
8	1	2	3	4	5
9	5	4	3	2	1
10	5	4	3	2	1
11	1	2	3	4	5
12	1	2	3	4	5
13	5	4	3	2	1
14	5	4	3	2	1

This inventory can be scored by adding the point values of the responses from all participants and dividing this total by the number of responses. Blank items should not be counted in the number of responses. The maximum attainable score of 5 points indicates that program participants believe that using alcohol can be detrimental to one's social, emotional, and physical well-being. A minimum score of 1 indicates that participants believe that using alcohol can enhance one's social, emotional, and physical well-being.

IDEAS ABOUT ALCOHOL USE

The sentences below are about how you might be affected by drinking alcohol. Put a check to show how much you agree or disagree with each sentence.

		Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
1.	People enjoy being around me more when I've had a few drinks.	( )	( )	( )	( )	( )
2.	I can have a few drinks without my driving being affected.	( )	( )	( )	( )	( )
3.	Alcohol helps me get through stressful situations.	( )	( )	( )	( )	( )
4.	Drinking changes my personality for the worse.	( )	( )	( )	( )	( )
5.	Drinking regularly could result in my becoming addicted to alcohol.	( )	( )	( )	( )	( )
6.	Drinking alcohol is bad for my health.	( )	( )	( )	( )	( )
7.	I could have family problems if I drank alcohol every day.	( )	( )	( )	( )	( )
8.	I have more fun at social events when I drink.	( )	( )	( )	( )	( )
9.	Alcohol has been a negative influence in my life.	( )	( )	( )	( )	( )
10.	My friendships would be damaged if I drank a lot.	( )	( )	( )	( )	( )

		Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
11.	I feel more confident when I drink alcohol.	( )	( )	( )	( )	( )
12.	Drinking alcohol is an appropriate way for me to relax.	( )	( )	( )	( )	( )
13.	I would feel ashamed if I drank too much.	( )	( )	( )	( )	( )
14.	I would have problems at work if I drank more than I do now.	( )	( )	( )	( )	( )

BELIEFS ABOUT ALCOHOL USE

This affective measure assesses participants' perceptions about the consequences of alcohol use. This measure is appropriate for adolescents and preadolescents.

PURPOSE

Having information about participants' perceptions regarding the consequences of alcohol use may be useful in the following ways:

- Administration of this measure at the beginning of the program may provide needs assessment information. For example, results of this measure may show that participants' perceptions regarding alcohol use are weak, thus indicating a need for participant training in that area.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' perceptions about the consequences of alcohol use.

PROCEDURES

This instrument can be administered both at the beginning and at the end of the program. However, handbook users should be alert to concerns regarding the potential reactivity of affective measures. A measure is considered *reactive* if the experience of completing the measure prior to the program causes participants to react differently to the program. Handbook users should, therefore, carefully review each affective measure that they wish to use to determine its potential for making participants unduly sensitive to aspects of the program. If a measure is determined to be reactive, then program personnel should *not* administer that measure to *all* participants as a pretest and posttest. Instead, the measure could be administered to half of the program participants prior to program participation to determine participants' pre-program status. The measure could then be administered to the other half of the participants after program participation to assess participants' post-program status.

SCORING AND ANALYSIS

Point values are assigned to response options as follows:

Item No.	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
1	1	2	3	4	5
2	5	4	3	2	1
3	5	4	3	2	1
4	5	4	3	2	1
5	1	2	3	4	5
6	1	2	3	4	5
7	5	4	3	2	1
8	5	4	3	2	1
9	1	2	3	4	5
10	1	2	3	4	5
11	1	2	3	4	5
12	1	2	3	4	5
13	5	4	3	2	1
14	5	4	3	2	1
15	5	4	3	2	1

This inventory can be scored by adding the point values of the responses from all participants and dividing this total by the number of responses. Blank items should not be counted in the number of responses. The maximum attainable score of 5 points indicates that program participants believe that using alcohol can be detrimental to one's social, emotional, and physical well-being. A minimum score of 1 indicates that participants believe that using alcohol can enhance one's social, emotional, and physical well-being.

BELIEFS ABOUT ALCOHOL USE

The sentences below are about how people might be affected by drinking alcoholic beverages (such as beer, wine, or hard liquor). Put a check to show how much you agree or disagree with each sentence.

		Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
1.	I feel that parties are more enjoyable when there is alcohol.	( )	( )	( )	( )	( )
2.	Drinking alcohol is bad for my health.	( )	( )	( )	( )	( )
3.	I would have family problems if I drank every day.	( )	( )	( )	( )	( )
4.	I would have lower grades in school if I drank more than I do now.	( )	( )	( )	( )	( )
5.	I would have more fun if I drank.	( )	( )	( )	( )	( )
6.	Drinking is a good way to forget my problems.	( )	( )	( )	( )	( )
7.	Alcohol could mess up parts of my life.	( )	( )	( )	( )	( )
8.	I feel that driving a car after having a few drinks is a stupid thing to do.	( )	( )	( )	( )	( )
9.	I would feel more popular if I drank alcohol.	( )	( )	( )	( )	( )
10.	I would feel proud if I could drink more than other people.	( )	( )	( )	( )	( )
11.	It's okay if I get drunk once in a while.	( )	( )	( )	( )	( )

		Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
12.	Drinking alcohol is a good way to relax and loosen up.	( )	( )	( )	( )	( )
13.	People fight and argue more when they drink.	( )	( )	( )	( )	( )
14.	Drinking is wrong for teenagers.	( )	( )	( )	( )	( )
15.	I could become addicted to alcohol if I drank alcohol regularly.	( )	( )	( )	( )	( )

DRINKING SURVEY

This affective measure assesses participants' intention to drink alcohol in the future. This measure is appropriate for adults, adolescents, and preadolescents.

PURPOSE

Having information about participants' predicted alcohol consumption may be useful in the following ways:

- Administration of this measure at the beginning of the program may provide needs assessment information. For example, results of this measure may indicate a strong intention to drink, thus indicating a need for training in the area of responsible drinking.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' intention to drink.

PROCEDURES

This instrument can be administered both at the beginning and at the end of the program. However, handbook users should be alert to concerns regarding the potential reactivity of affective measures. A measure is considered *reactive* if the experience of completing the measure prior to the program causes participants to react differently to the program. Handbook users should, therefore, carefully review each affective measure that they wish to use to determine its potential for making participants unduly sensitive to aspects of the program. If a measure is determined to be reactive, then program personnel should *not* administer that measure to *all* participants as a pretest and posttest. Instead, the measure could be administered to half of the program participants prior to program participation to determine participants' pre-program status. The measure could then be administered to the other half of the participants after program participation to assess participants' post-program status.

SCORING AND ANALYSIS

Point values are assigned to response options as follows:

Definitely Yes = 1
Probably Yes = 2
Maybe = 3
Probably No = 4
Definitely No = 5

Parts A and B of this questionnaire should be scored separately. First, add the point values of the responses to Part A of the items from all participants. Divide this total by the number of responses to Part A. Blank items should not be counted in the number of responses. The maximum attainable score of 5 points indicates a strong intention to *refrain* from drinking alcohol. A minimum score of 1 point indicates a strong intention to drink alcohol. Score Part B using the same procedure discussed above. The maximum attainable score of 5 points indicates a strong intention to *refrain* from getting drunk. A minimum score of 1 point indicates a strong intention to get drunk. The questionnaire can also be scored for each of the four time frames (week, month, year, life) covered by the measure.

DRINKING SUVEY

The questions below ask about your plans for drinking alcoholic beverages. An "alcoholic beverage" means beer, wine, or hard liquor (such as vodka or whiskey). For each question, put a check to show how likely you are to drink in the future. Please answer these questions as honestly as you can. Your answers are private. Do not put your name on this questionnaire.

	Definitely Yes	**Probably Yes**	**Maybe**	**Probably No**	**Definitely No**
1. During the next *WEEK*:					
a. Will you drink an alcoholic beverage?	( )	( )	( )	( )	( )
b. Will you drink enough to feel drunk?	( )	( )	( )	( )	( )
2. During the next *MONTH*:					
a. Will you drink an alcoholic beverage?	( )	( )	( )	( )	( )
b. Will you drink enough to feel drunk?	( )	( )	( )	( )	( )
3. During the next *YEAR*:					
a. Will you drink an alcoholic beverage?	( )	( )	( )	( )	( )
b. Will you drink enough to feel drunk?	( )	( )	( )	( )	( )
4. During the rest of your *LIFE*:					
a. Will you ever drink an alcoholic beverage?	( )	( )	( )	( )	( )
b. Will you ever drink enough to feel drunk?	( )	( )	( )	( )	( )

TAKING CARE OF YOURSELF

This affective measure assesses participants' willingness to engage in health-enhancing behaviors including the avoidance of alcohol. This measure is appropriate for adults, adolescents, and preadolescents.

PURPOSE

Having information about participants' willingness to engage in healthy behaviors may be valuable in the following ways:

- Administration of this measure at the beginning of a program may provide needs assessment information. For example, results of this measure may indicate that participants express a general willingness to live a healthy lifestyle. In response, a program could encourage participants to view limited consumption of alcohol as one component of a healthy lifestyle.
- When this measure is administered prior to and following a program, it is possible to evaluate changes in participants' willingness to engage in health-enhancing behaviors including limiting or avoiding the consumption of alcohol.

PROCEDURES

This instrument can be administered both at the beginning and at the end of the program. However, handbook users should be alert to concerns regarding the potential reactivity of affective measures. A measure is considered *reactive* if the experience of completing the measure prior to the program causes participants to react differently to the program. Handbook users should, therefore, carefully review each affective measure that they wish to use to determine its potential for making participants unduly sensitive to aspects of the program. If a measure is determined to be reactive, then program personnel should *not* administer that measure to *all* participants as a pretest and posttest. Instead, the measure could be administered to half of the program participants prior to program participation to determine participants' pre-program status. The measure could then be administered to the other half of the participants after program participation to assess participants' post-program status.

SCORING AND ANALYSIS

Point values are assigned to response options as follows:

Certainly Yes = 5
Probably Yes = 4
Maybe = 3
Probably No = 2
Certainly No = 1

This inventory can be scored by summing the point values of the responses from all participants and dividing this total by the total number of responses. Items left blank should not be counted in the number of responses. The maximum attainable score of 5 points indicates a strong willingness to engage in health-enhancing behaviors. A minimum score of 1 indicates a little or no willingness to engage in health-enhancing behaviors.

TAKING CARE OF YOURSELF

Below is a series of behaviors that help ensure good health. Read each one, then put a check in the column that best describes whether you are willing to engage in that behavior.

In order to take care of yourself, are you willing to . . .	**Certainly Yes**	**Probably Yes**	**Maybe**	**Probably No**	**Certainly No**
1. eat a nutritious breakfast every day?	( )	( )	( )	( )	( )
2. avoid drinking large amounts of alcohol?	( )	( )	( )	( )	( )
3. avoid stressful situations?	( )	( )	( )	( )	( )
4. avoid smoking marijuana (“pot,” “grass”) or hashish?	( )	( )	( )	( )	( )
5. exercise several times each week?	( )	( )	( )	( )	( )
6. eat whole grains, fresh fruits, and vegetables regularly?	( )	( )	( )	( )	( )
7. avoid using cocaine (“coke” or “crack”)?	( )	( )	( )	( )	( )
8. get eight hours of sleep each night?	( )	( )	( )	( )	( )
9. maintain a healthy body weight?	( )	( )	( )	( )	( )
10. avoid smoking cigarettes?	( )	( )	( )	( )	( )
11. eat foods that are low in fat?	( )	( )	( )	( )	( )
12. avoid taking psychedelic drugs, such as LSD (“acid”)?	( )	( )	( )	( )	( )

In order to take care of yourself, are you willing to . . .	**Certainly Yes**	**Probably Yes**	**Maybe**	**Probably No**	**Certainly No**
13. avoid riding in a car if the driver has been drinking alcohol?	( )	( )	( )	( )	( )
14. have regular dental checkups?	( )	( )	( )	( )	( )
15. always wear a seatbelt when in a car?	( )	( )	( )	( )	( )
16. avoid taking amphetamines ("speed") without a doctor's orders?	( )	( )	( )	( )	( )
17. avoid drinking if you must drive?	( )	( )	( )	( )	( )
18. avoid taking tranquilizers without a doctor's orders?	( )	( )	( )	( )	( )
19. use nonprescription drugs only as intended?	( )	( )	( )	( )	( )
20. avoid taking barbiturates ("downers," "reds") without a doctor's orders?	( )	( )	( )	( )	( )
21. eat foods that are low in sugar?	( )	( )	( )	( )	( )
22. eat foods that are low in salt?	( )	( )	( )	( )	( )
23. eat fast food only on occasion, not as a regular part of your diet?	( )	( )	( )	( )	( )

CHAPTER FOUR

Locally Conducted Psychometric Studies

Locally Conducted Psychometric Studies

As described in Chapter One, the first step in using the newly developed handbook measures to examine program effectiveness is to select those that match program goals. However, evaluators cannot assume that a measure that appears to assess a desired program outcome will produce valid data about that outcome. When evaluators use a measure, they first want to determine the technical quality of that measure to ensure that any conclusions drawn about a program's effects are warranted. The purpose of this chapter is to assist evaluators in conducting validation studies for those handbook measures chosen for use in program evaluation.

Determining the Technical Quality of Measuring Devices

The degree to which a measuring instrument yields scores from which one can make legitimate inferences is referred to as validity. Tests are not valid or invalid. Rather, it is the inferences made, based on test results, that are valid or invalid. It is, therefore, technically accurate to focus on the *validity of score-based inferences* rather than the validity of a particular measuring device.

The concept of validity is highly dependent on the particular way in which a measuring instrument will be used. For example, a measure of the use of systematic decision making skills may permit a valid inference regarding the *number* of different skills that program participants use, but may yield invalid inferences regarding the *frequency* with which participants use each skill. Furthermore, a test may yield valid inferences for a particular purpose with one population but invalid inferences for the same purpose with a different population. Thus, because validity varies on the basis of purpose and population, it is most appropriate to examine validity in the setting in which a measure will be used.

A second factor in determining the technical quality of a measurement instrument deals with the extent to which the instrument produces reliable, that is, consistent, results. Because the newly developed handbook measures have been subjected only to small-scale field tests, no reliability data are currently available. It is hoped that handbook users will conduct their own reliability studies and share those results with the Centers for Disease Control. In this way, results can be compiled over time and, subsequently, provided to handbook users. Procedures for evaluating the reliability of the handbook measures will be presented following a discussion of local validation approaches.

Categories of Validity Evidence

There are three major types of evidence regarding validity. These include content-related evidence of validity, criterion-related evidence of validity, and construct-related evidence of validity. The procedures for securing each type of validity evidence will be described below.

Content-related evidence of validity. Content-related evidence of validity involves the careful review of a measure's content by individuals identified as experts in the content area being assessed. This type of validity evidence is particularly important for measures designed to assess examinees' knowledge and skills. To secure positive content-related validity, the measure must include only those items that correspond to the content area being assessed and its items must address all important facets of that content area. The systematic, expertise-rooted procedures used to develop the handbook's instruments helped to ensure that appropriate content was built into the measures. Subsequent reviews by external experts confirmed that the measures are, indeed, focused on suitable content. These development procedures and the role of expert advisors in the project are described in the handbook's preface.

If there are questions regarding the suitability of the content in any of the handbook's measures, content-related validity can be examined by assembling a panel of experts who can judge the suitability of a measure's content for the specific program evaluation purpose for which the measure is to be used. A panel of approximately 10 knowledgeable individuals can be asked to review the measuring instrument's items, one by one, and render independent yes/no judgments regarding the appropriateness of each item's content (in relationship to the inference that the program evaluators wish to make on the basis of the measure). In addition, panelists can be asked to determine whether any important content has been omitted from the measure. For example, if a knowledge measure such as **Physical Effects of Alcohol Use** is being reviewed, panelists might be asked first to think of all the important facts about the effects of alcohol that program participants must know and then to indicate the percentage of those facts that are present in the measure being reviewed. This straightforward indication of a measure's content representativeness, when coupled with judgments regarding the content appropriateness of a measure's items, can yield important content-related evidence of validity for a measure.*

Criterion-related evidence of validity. Criterion-related evidence of validity requires that a measure be checked against an independent criterion. The independent criterion or standard should be one that the measure would be expected to predict. Criterion-related validity is most important for the handbook measures in the areas of behavior and intention. In the area of behavioral self-reports, for example, criterion-related validity would focus on the degree to which the self-reports reflect actual behavior. So, for example, criterion-related validity for a self-report instrument designed to measure the use of alcohol would be secured by correlating responses on this instrument with observations (by others) of the extent to which alcohol was *actually* being used.

External criterion measures, such as observations, while often more accurate measures of behavior than self-reports, are extremely costly and time consuming to use. Thus, although it may be possible to use such criterion measures in a one-time validity study, they typically will not eliminate the need for self-report instruments in routine program evaluations. The general procedure for conducting a criterion-related validity study is shown in Figure 4.1.

A correlation of approximately .50 or higher between the measure and criterion would indicate that the new measure is predictive of the external criterion measure and, therefore,

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* For additional information about how to conduct content-related validation studies, see Annotated Bibliography Nos. 18, 23, 27, and 34.

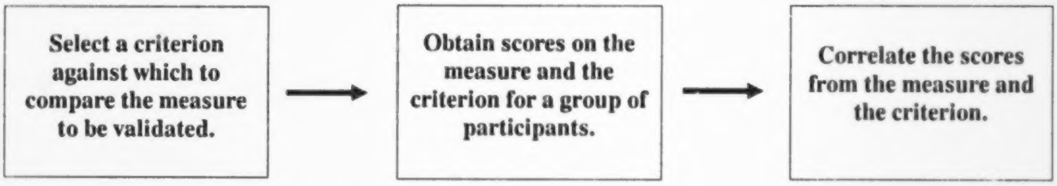
Select a criterion against which to compare the measure to be validated.
Obtain scores on the measure and the criterion for a group of participants.
Correlate the scores from the measure and the criterion.

Figure 4.1: Procedure for conducting criterion-related validity studies

is measuring what it is intended to measure. A low correlation would call into question the self-report instrument as a measure of the behavior of interest.

Each criterion-related validity study must be specifically designed for the particular measure being examined and the purpose for which it will be used. For example, imagine that an evaluator wanted to examine the criterion-related evidence of validity for the handbook's measure entitled **Drinking Survey.** The evaluator must first identify an appropriate criterion measure. How is a program evaluator likely to use an intention measure? The most likely use would be to employ it as a proxy measure foreshadowing a program's effect on the future behavior of participants. That is, will program participants use alcohol responsibly or refrain from drinking in the future? Thus, an appropriate criterion measure might be the reported use of alcohol several months following the program.

To assemble criterion-related evidence of validity for the intention measure, a program evaluator could administer the intention measure at the end of the program to a group of at least 30 participants (or repeat this process each session until responses from at least 30 participants are obtained) and obtain completed self-report surveys several months later regarding participants' use of alcohol. Once both measures are collected for every individual, a correlation could be computed between the strength of intention for using alcohol and whether alcohol was being used following the program. Thus, the criterion-related validity study would examine whether the intention measure was, in fact, predictive of later behavior. A measure that can serve as a meaningful proxy for participants' future behavior can prove highly useful in the evaluation of a program's impact on participants.*

Construct-related evidence of validity. The final type of validity evidence to be reviewed, construct-related evidence of validity, is particularly important for those handbook measures that do not have a clear criterion against which they can be evaluated. Such measures include the attitudinal and affective measures such as **Refraining from Drinking**, a measure that examines an individual's perceived ability to refrain from drinking in different situations. Construct-related validity involves the gradual accumulation of data regarding what a test measures. Three strategies are customarily used to secure construct-related evidence of validity for a measure. First, in the *related-measures strategy,* predictions can be tested about the extent to which the measure of interest is correlated with other measures. For example, perceived ability to refrain from drinking should be positively related to other measures aimed at assessing a similar attribute but should show reduced correlations with measures tapping different attitudinal dimensions. Thus, other existing measures can be correlated with the measure of interest to help clarify what is being measured.

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* For additional information about the design and analysis of criterion-related validity studies, see Annotated Bibliography Nos. 18, 23, 27, and 34.

If the correlations are consistent with the prior predictions, then construct-related evidence of validity has been obtained to support the defensibility of inferences based on the measure's use. Figure 4.2 illustrates the anticipated correlations between the measure of interest and other similar and dissimilar measures.

A second approach to examining construct-related validity involves predictions about group differences and is referred to as a *differential-populations strategy.* For this procedure, two or more groups are identified that are expected, based on other characteristics, to perform differently on the measure of interest. For example, the two groups might consist of individuals who are problem drinkers versus those who are controlled social drinkers. If the anticipated performance difference between the two groups is not obtained, it would raise the question as to whether the test was measuring what it was thought to measure.

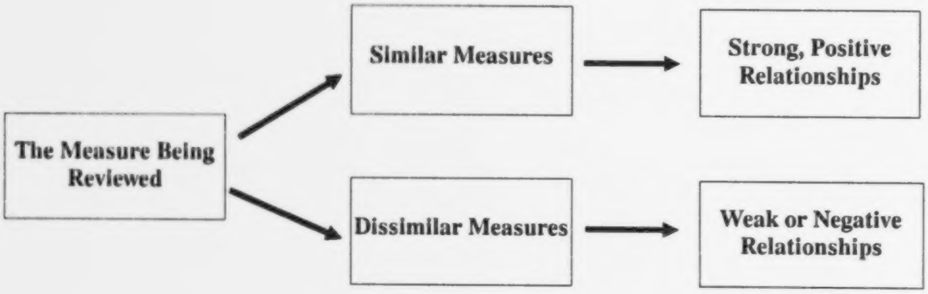
Similar Measures
Strong, Positive Relationships
The Measure Being Reviewed
Dissimilar Measures
Weak or Negative Relationships

Figure 4.2: Correlations between measures assessing similar/dissimilar attitudinal dimensions

A third strategy for securing construct-related evidence of validity is referred to as an *intervention strategy* because it involves the use of interventions such as training programs. For instance, a measure examined via this strategy could be administered to a group of participants before and after a "proven" alcohol education program. If a difference in participants' scores on the measure is not observed, then the construct-related evidence of validity regarding the measure being reviewed is not supportive of the measure's use.

Construct-related evidence of validity is never based on a single study. Instead, consideration of a variety of studies, employing multiple validation strategies such as those described here, will help provide greater clarification regarding the appropriateness of using a given measuring instrument.*

Types of Reliability

A second characteristic of a defensible measurement instrument is the reliability or consistency with which it measures. The reliability of a test can be examined in three distinct ways. These include test-retest reliability, alternate-forms reliability, and internal consistency. Each of these approaches will be described below.

Test-retest reliability. Test-retest reliability (also referred to as *stability* reliability) examines the extent to which a measurement instrument is consistent over testing occasions. That is, will an individual who received a particular score on one testing occasion receive a similar score on a different testing occasion? Typically, to secure test-retest reliability information, an instrument is administered once to a group of individuals (30 or more). The same instrument is then administered again under similar conditions to the same group of individuals approximately two to four weeks later. Individuals' scores from the two administrations are then correlated. The higher the correlation, the greater the stability of measurement over time. Short tests, or other tests that are likely to be easily remembered, may result in an overestimate of reliability if participants recall their answers and, hence, respond similarly on the second testing occasion.

Alternate-forms reliability. The knowledge and skill measures in this handbook have two forms that may be used for a pretest to posttest comparison. The administration of one form for the pretest and the other form for the posttest is desirable because the pretest may sensitize participants to pay more attention to those issues included on the pretest than to other equally important issues. However, to draw defensible conclusions based on the use of two different forms at pretest and posttest, the forms must be equivalent.

To examine alternate-forms reliability, it is necessary to administer both forms to the same group of individuals. The scores from the two forms can then be correlated. High correlations indicate that the same conclusions would be drawn about an individual or group of participants regardless of which of the two forms had been used. Thus, there would be reliable or consistent measurement across alternate forms. A high alternate-forms reliability coefficient does not guarantee that the forms are perfectly equidifficult. If the two forms are not of equal difficulty, that is, participants perform consistently better on one form than the other, it would still be possible to obtain high between-forms correlations. Thus, it is important to be attentive to mean scores on the two test forms. It is also permissible to use p-values (the percentage of examinees getting each item correct) to reassign items to forms so that they are more equidifficult. After the redistribution of items, a second alternate-forms reliability study should be conducted.

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* For additional information about how to conduct construct-related validity studies, see Annotated Bibliography Nos. 18, 23, 27, and 34.

Handbook users should not assume equivalence or equidifficulty for the multiple forms provided in this handbook. Until alternate-forms reliability and test difficulty are examined, the measures should be used in a design such that half of the participants take Form A as a pretest and Form B as a posttest while the other half take Form B as a pretest and Form A as a posttest. This counterbalancing technique eliminates the possible influence of one form being more difficult than the other.

Internal consistency. Internal consistency examines the extent to which the instrument measures a single or related set of constructs. The higher the internal consistency, the greater the homogeneity of items on the test. A test thought to measure a single attitudinal dimension should have relatively high internal consistency reliability. Procedures for calculating internal consistency include split-half reliability, Kuder-Richardson formulas, and Cronbach's Alpha. The split-half reliability coefficient is calculated by administering the test to a group of at least 30 participants and then correlating scores from the odd versus the even items. A correction for test length must then be made using the Spearman-Brown formula. The split-half procedure is very similar to alternate-forms reliability in that two "forms" are correlated by separating the odd and even items. Kuder-Richardson formulas for internal consistency provide an estimate of the average of all possible split-halves. These formulas, like Spearman-Brown, require that test items be binary-scored, that is, able to be scored as right or wrong. Cronbach's Alpha is identical to Kuder-Richardson for binary-scored items but can also be used for items that yield responses to which several points can be assigned, such as the items on **Effects of Alcohol**.

Not all forms of reliability need to be computed for every test. For example, alternate-forms reliability would be computed only for those measures that have two forms. Internal consistency estimates are less appropriate for multidimensional measures. Test-retest reliability is appropriate for most measures but often presents pragmatic problems due to the need to retest the same individuals.*

Groups and Individuals

The validity and reliability procedures reviewed here were originally developed to examine the quality of tests used for *individual* assessment purposes. In contrast, the recommended use of the handbook measures is to perform *group* analyses for program evaluation. Thus, the appropriate reliability issue is whether scores for a group of individuals are relatively consistent. Similarly, the validity issue is whether changes in scores for a group of individuals are reflective of changes in the group's knowledge, skills, affect, or behavior. Because group scores are more stable than individual scores, the procedures outlined above are likely to underestimate the reliability and validity of the measures when used for program evaluation. Practically speaking, a measurement instrument with a lower reliability or validity coefficient would be acceptable when used for group rather than individual diagnosis. For example, Salvia and Ysseldyke (1981, p. 98) have recommended the following minimum standards for alternate-forms reliability:

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* For additional information about how to examine the reliability of measurement instruments, see Annotated Bibliography Nos. 3, 18, 19, 23, 27, and 34.

.60 - when scores are reported for groups

.80 - when scores are used for individual screening

.90 - when scores are used for important educational decisions for individuals

Thus, standards for acceptable reliability and validity vary depending on the purpose for using a particular measure. However, minimal levels for each are critical for making sound decisions about a program. With a little creativity and effort, studies of reliability and validity can often be integrated into the ongoing operation of a program.

In addition to providing a brief overview, the major purpose of this chapter was to encourage handbook users to conduct local reliability and validity studies and to consider the involvement of a measurement specialist or the use of appropriate references in designing such studies. As suggested at the outset of the chapter, if such local studies are carried out, results should be forwarded to the Centers for Disease Control (Attention: Dr. Diane Orenstein, Project Officer, Center for Health Promotion and Education, Centers for Disease Control, 1600 Clifton Road N.E., Atlanta, GA 30333). This information will be shared with future handbook users.

Appendices

Appendix A

AMPLIFIED CONTENT DESCRIPTORS

PHYSICAL EFFECTS OF ALCOHOL USE

(Adult/Adolescent Measure)

FACTS ABOUT ALCOHOL USE

(Preadolescent Measure)

Alcohol and Nutrition

1. Alcoholic beverages are relatively high in calories.
2. Many alcoholic beverages are higher in calories than regular soft drinks.
3. Alcohol contains only small amounts of the nutrients needed for growth and good health.
4. Because alcohol cannot be stored by the body, the body uses it for fuel and stores other food as fat.
5. Alcohol consumption adversely affects the absorption of certain nutrients by the digestive tract.
6. Alcoholics often have a nutritionally inadequate diet as alcohol often takes the place of other food they need to be healthy.

Alcohol and the Cardiovascular System

7. Intoxication decreases the force of the pumping action of the heart.
8. Regular heavy alcohol use often leads to the development of an abnormally functioning heart muscle.
9. Heartbeat irregularities, which can lead to heart failure, are common in alcoholics.
10. Long-term alcohol abuse increases the risk of developing coronary heart disease.

Alcohol and Lung Disease

11. Chronic lung disease is common among male alcoholics, particularly smokers.
12. Compared to individuals in the general population, alcoholics have an increased risk of developing pneumonia.
13. Among alcoholics, there is an increased prevalence of bacterial lung abscesses possibly incited by poor dental health combined with recurrent abnormal respiration during intoxication.

Alcohol and the Nervous System

14. One short-term effect of alcohol ingestion is decreased activity in parts of the brain and spinal cord; the extent of decreased activity is proportional to the concentration of alcohol in the bloodstream.
15. A person's control over social behavior, motor coordination, speech, and vision decreases in relation to the amount of alcohol consumed.
16. Regular heavy use of alcohol can lead to a general loss of mental ability and/or severe memory impairment.
17. One long-term consequence of heavy alcohol use and alcoholism is the loss of brain cells.
18. Intoxication is the result of the action of unoxidized excess alcohol on the brain.

Alcohol and the Gastrointestinal System

19. Intestinal problems caused by alcohol consumption contribute to nutritional deficiencies.
20. Drinking alcohol can produce inflammations and bleeding sores in the stomach.
21. A single dose of alcohol can produce lesions in the duodenum, a part of the small intestine.
22. One long-term effect of alcoholism is irreversible and progressive damage to the pancreas.
23. The presence of any food, especially milk, fats, and meat, in the stomach will slightly slow down the initial absorption of alcohol into the bloodstream.
24. Cholinergic drugs, alkaline salts, and carbonated beverages will increase gastric emptying into the bloodstream; hence, "mixers" actually speed up intoxication.

Alcohol and Cancer

25. Heavy alcohol use is related to an increased risk of cancer of the mouth, pharynx, larynx, and esophagus.
26. Chronic alcohol consumption may also be associated with malignant melanoma (skin cancer) as well as cancers of the respiratory and alimentary tracts, liver, pancreas, stomach, large intestine, rectum, and breast.

Alcohol and the Liver

27. Approximately 75% of all regular heavy drinkers suffer from liver problems.
28. The three specific subtypes of liver disease associated with alcohol use are fatty liver, alcoholic hepatitis, and alcoholic cirrhosis.
29. Approximately 8% of all regular heavy drinkers develop cirrhosis of the liver, which can be fatal.

Alcohol and Kidney Disease

30. Alcoholics who have liver disease commonly develop enlarged kidneys.
31. Even in the absence of liver disease, alcoholics are 20 times more likely than nonalcoholics to suffer tissue loss in the kidney (as a result of acute kidney infection).

Alcohol, Hypertension and Stroke

32. Regular heavy drinking is associated with a substantially higher rate of hypertension.
33. The use of alcohol increases a person's chance of having a stroke.

Alcohol and the Endocrine System

34. The level of testosterone, a male hormone, is reduced in men within hours after ingesting enough alcohol (approximately seven drinks) to produce a hangover.
35. Regular heavy alcohol use in men often results in a decreased ability to produce male hormones (androgens) and in excess production of female hormones (estrogens).
36. Many male alcoholics experience infertility, impotence, loss of libido, breast enlargement, loss of facial hair, or testicular atrophy as a result of lowered testosterone levels and/or raised estrogen levels.
37. Alcoholic women are often affected with ovarian dysfunction, reduced or absent menstruation, loss of breast or pelvic fat accumulation, and infertility.

Alcohol and Pregnancy

38. Pregnant women who drink are more likely to have babies with fetal alcohol syndrome (FAS) than are pregnant women who do not drink.
39. The abnormalities of FAS include limited growth potential, small head size, facial deformation, abnormal joints, cardiac irregularities, mental damage, and/or psychomotor handicaps.
40. Lower birth weight, which is the most common effect of FAS, is associated with alcohol consumption even when FAS is not present.
41. Prenatal exposure to alcohol poses health threats to the unborn child that can result in miscarriage, newborn death, and behavioral disturbances such as hyperactivity.

Interactive Effects of Alcohol

42. The effects of alcohol depend on (a) how fast a person drinks, (b) how much alcohol is in a drink, (c) whether a person has eaten before drinking, (d) how much a person weighs, and (e) how a person feels.

43. Alcohol enters the bloodstream very quickly and affects the brain and body for some time.

44. After one drink, light and moderate drinkers begin to feel the effects of alcohol.

45. An average-sized person of 135 pounds will have trouble making sound decisions after having two drinks within an hour.

46. Alcohol changes how a person feels and acts.

47. People who are drunk may feel dizzy, fall down, or fall asleep and may have trouble remembering things, talking and/or walking straight.

48. The way in which alcohol affects a person's mental and physical performance depends upon the amount of alcohol consumed and the person's age.

49. The combined effects of alcohol and tobacco increase a person's chances of developing some types of cancer.

50. Combining alcohol with antihistamines (cold, cough, and allergy remedies), marijuana, tranquilizers, barbiturates or other "sleeping pills" can intensify the effects of these drugs to a dangerous degree.

Alcohol Tolerance, Dependence, and Withdrawal

51. Alcohol is a drug.

52. Anyone can become physically addicted to alcohol.

53. Tolerance is the biological and behavioral adaptation to the use of alcohol.

54. There are two types of tolerance: (a) acute tolerance, which refers to short-term adaptation to an acute dose and (b) chronic tolerance, which represents the experienced drinker's ability to consume increased amounts of alcohol without behavioral impairment.

55. With regular drinking, an individual's alcohol tolerance increases, which can result in physical and psychological dependence upon alcohol for daily functioning.

56. The state of physical dependence is achieved when the body has adapted to alcohol and withdrawal symptoms occur if its use is stopped abruptly.

57. Among people who are dependent on alcohol, withdrawal symptoms include jumpiness, sleeplessness, sweating, poor appetite, tremors, convulsions, and possibly death.

Rate of Intoxication

58. The presence of food in the stomach prior to drinking slows the rate of intoxication.

59. The higher the alcohol content (proof) of a beverage, the faster the rate of intoxication within a given time period.

60. Different liquors of equal proof, if ingested in the same manner, are equally intoxicating.

61. A person's degree of intoxication depends on the quantity of alcohol consumed within a given time period.

62. The equivalent of three or four drinks, ingested at once, can make an average-sized man (150 lbs.) with moderate drinking experience flushed and dizzy, lose muscle coordination, and show slowed reflexes; similar effects for average-sized women (120 lbs.) occur with two to three drinks.

63. After six to eight drinks, an average-sized man is likely to stagger, have double vision and numbing of the senses, and be in a stupor (similar effects for average-sized women occur with four to six drinks).

Sobering Up Process

64. The headache, nausea, shakiness, and vomiting that occur 8 to 12 hours after drinking is known as a hangover and represents the body's reaction to excessive amounts of alcohol in a short period of time.

65. Sobering up occurs when alcohol is broken down chemically by the liver and then metabolized by the body.

66. Eating foods that are high in fats or carbohydrates after drinking does not affect the body's rate of metabolism of alcohol.

67. Caffeine does not affect the body's rate of metabolism of alcohol.

68. Caffeine may help a person temporarily regain control of certain mental and physical functions by partially stimulating some of the cells depressed by alcohol.

Factors Leading to Alcohol Use

69. Teens who drink tend to drink with and become friends with other drinkers – even more so than teens who use other drugs.

70. Regular drinking at an early age can lead to moderate or heavy drinking later on.

71. Some people drink to help them relax or cope with stress.

Alcohol Can Be a Problem

72. People who drink heavily often develop a system of lies and excuses to cover up their drinking behavior.

73. People who drink heavily have problems at work or school.

74. People who drink heavily often harm themselves and their families.

75. The more alcohol a teenager drinks, the more likely the teenager is to have problems.

76. Young people who drink heavily are more likely to have experiences with other drugs.

Identifying Drinking Problems

77. People who often feel they need to have a drink have a drinking problem.
78. People who often drink in order to feel drunk have a drinking problem.
79. People who often drink in order to escape from their problems may have a drinking problem.
80. People who miss work or school because of their drinking have a drinking problem.
81. People who drive while drunk may have a drinking problem.
82. People who get into trouble with the police because of their drinking may have a drinking problem.

THE EFFECTS OF ALCOHOL USE ON SOCIETY

(Adult Measure)

PROBLEMS WITH ALCOHOL

(Adolescent/Preadolescent Measure)

Patterns of Alcohol Use

1. By ninth grade, over half of American children have tried alcohol.
2. At all ages, men drink more than women.
3. One-third of Americans report not drinking; two-thirds have less than one drink per week.
4. Approximately 10% of Americans consume 50% of the alcohol purchased in the U.S.; approximately 20% of Americans drink 70% of all the alcohol consumed in the U.S.
5. Alcohol consumption increases as income and years of education increase.
6. The rate of increase in national alcohol consumption has been slow in recent years.
7. Over 60% of women report abstaining from alcohol during pregnancy.
8. Approximately 93% of high school seniors report having tried alcohol.
9. Surveys show that teenagers have been drinking less every year since 1979.
10. Approximately 30% of high school seniors say they have friends who get drunk once a week; approximately 39% report having had five drinks on one occasion in the last two weeks.
11. Approximately 51% of teens say their friends disapprove of heavy drinking on the weekends.
12. Studies in numerous states and Canada show that lowering the legal drinking age results in more traffic accidents, fatalities and increased alcohol consumption among the teenagers affected by the lowered limit.
13. Studies of nine states that raised their legal drinking age showed that fatal nighttime accidents were reduced by an average of 28% among the teenagers affected by the raised limit.

Human Costs Associated with Alcohol Use

14. There are over 25,000 fatal traffic accidents each year; a majority are related to alcohol use.
15. Alcohol-related traffic accidents are the leading cause of death for teenagers 15-19 years old.
16. When all causes of mortality are included, alcohol use is involved in the deaths of 200,000 people each year.

17. One out of every three people reports having some kind of alcohol-related family problem.

18. Drinking increases the risk of being killed or injured in occupational accidents, drownings, falls, fires, and pedestrian accidents.

19. Most studies suggest that at least half of all spouse abuse involves alcohol.

20. Alcohol is found to be frequently involved in violent crimes including murder, rape, robbery and assault.

21. Heavy drinking by parents can have a variety of negative effects on their children.

22. People who cannot control their drinking very often come from families in which a family member had a drinking problem.

23. Alcohol is often a contributing factor in suicide.

Economic Costs Associated with Alcohol Use

24. The costs associated with the effects of alcohol total $120 billion per year.

25. On a national scale, the costs associated with alcohol use are almost twice as great as the costs resulting from drug abuse.

26. Alcohol use results in more traffic accidents, far greater health care costs, reduced worker productivity, more violent crime, and the need for more social welfare programs.

The Social Acceptance of Alcohol

27. In a national survey, 39% of high school seniors said they had consumed five or more drinks on one occasion in the last two weeks.

28. The average child below the legal drinking age sees 3,000 acts of drinking alcohol on television per year.

29. The alcohol industry spends over one billion dollars per year on advertising.

30. Studies from the U.S., Canada, and Europe show that an increase in the cost of alcohol will result in a decrease in the rate of death from cirrhosis.

31. The price of alcoholic beverages relative to other beverages is 30% lower today than in 1960.

PROBLEM DRINKING

(Adult Measure)

Physiological Factors

1. Individuals with a drinking problem often experience blackouts or temporary memory losses after drinking.
2. Individuals with a drinking problem increase their tolerance for alcohol by drinking larger amounts of alcohol.
3. After long periods of heavy regular alcohol use individuals frequently experience delirium, muscle tremors, and hallucinations.
4. Alcoholics who substitute alcohol for food usually show symptoms of malnutrition.

Psychological Factors

5. The evidence does not support the notion of a single personality pattern specific to all alcoholics; rather, studies have identified several alcoholic personality profile types.
6. Social drinkers who increase their drinking as a response to stress may become excessive drinkers.
7. Individuals with a drinking problem usually use alcohol to help them relax.
8. Individuals with a drinking problem usually become angry if questioned about their drinking.

Behavioral Factors

9. Individuals with a drinking problem usually gulp drinks, or drink more rapidly than others in a social situation.
10. Individuals with a drinking problem are likely to drink larger quantities or more frequently than others in a social situation.
11. Individuals with a drinking problem are likely to sneak drinks throughout the day.
12. Individuals with a drinking problem often prefer to drink alone.
13. Individuals with a drinking problem tend to get drunk at inappropriate times and places.
14. Individuals with a drinking problem often try to change the time and place of their drinking and the type of alcoholic beverage they consume.
15. Individuals with a drinking problem often develop a system of lies and excuses to cover up their drinking behavior.
16. Individuals with a drinking problem tend to have periods of nonstop drinking.
17. Individuals with a drinking problem tend to have more family and marital problems than people in general.

Causal Factors

18. Both alcoholics and social drinkers usually expect to experience positive physical and emotional feelings, and more social pleasure and assertiveness through drinking.

19. Experts believe that individuals who drink heavily do so in order to reduce negative emotions such as loneliness, boredom, tension from financial or work-related problems, disappointments, and social pressures from peer groups.

20. Individuals with serious personality problems tend to drink more heavily than do well-adjusted individuals.

21. Individuals who drink large amounts of alcohol tend to be insecure, anxious, and dissatisfied with themselves and their lives.

22. Heavy drinkers who consume liquor with other heavy-drinking friends are more likely to increase their consumption and move towards problem drinking.

23. Experts believe that poor home environment, parental neglect, and/or lack of parental control causes children of alcoholic parents to tend more toward alcoholism than other children.

24. Experts believe that because alcoholic parents set an example of heavy drinking, the children of alcoholics tend more toward alcoholism than other children.

25. Research has established that genetic factors (heredity) are involved in determining individual susceptibility to alcoholism.

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Appendix B

INFORMED CONSENT PROCEDURES

Prior to administering measures to participants, program personnel should inform participants about the content covered by the measures and the purpose of the program's evaluation study. Program personnel may also wish to provide the opportunity for participants to indicate whether or not they consent to participate in the study and complete the selected measures. Informed consent is obtained by presenting all information pertinent to the study and asking the participant to affix a signature indicating that the information has been read and that consent is given to participate.

If the decision is made to obtain informed consent, program personnel have the choice of employing a "passive" consent procedure or an "active" consent procedure. *Passive informed consent* consists of asking participants to sign and return a consent form only *if they do not wish to participate* in the study. Participants who do not return the consent form are considered eligible to participate in the study.

Active informed consent requires participants to sign and return the consent form *if they wish to participate.* Only those participants who return a signed form can be included in the study. Consequently, the participation rate resulting from an active consent procedure is generally lower than that obtained from a passive consent procedure.

To construct an informed consent form, program personnel should consider including the following items:

1. A general statement of the program goals and objectives.
2. A brief explanation of the study procedures and measures.
3. An indication that the participant is free to withdraw consent and to discontinue participation at any time.
4. An explanation of the procedures to be taken to ensure anonymity and confidentiality of responses.
5. An indication that participants are free not to answer specific items or questions.
6. A place for the participants to affix their signatures under a statement indicating that the participant agrees to participate (active consent) or does not agree to participate (passive consent) in the study. If appropriate, a date for the return of the consent form should be specified.

Appendix C

ANNOTATED EVALUATION BIBLIOGRAPHY

1. Alkin, M.C., & Solmon, L.C. (Eds.). (1983). *The costs of evaluation*. Beverly Hills, CA: Sage.

   In this collection of essays both theoretical and practical issues relevant to cost-focused program evaluations are presented.

2. American Psychological Association. (1973). *Ethical principles in the conduct of research with human participants*. Washington, DC: Author.

   This treatise focuses on the appropriateness of carrying out various types of research investigations with human subjects. Because the American Psychological Association has had a long standing concern about ethical issues in the conduct of research investigations, this publication will be of interest to numerous evaluators of health education programs.

3. American Psychological Association, American Educational Research Association, National Council on Measurement in Education. (1985). *Standards for educational and psychological tests.* Washington, DC: Author.

   This volume presents the most widely used set of standards for psychological and educational tests. Frequently cited by users of educational tests, the standards have recently been employed in numerous judicial deliberations. Relatively brief, the standards should be consulted by health educators who employ assessment devices regularly.

4. Anderson, L.W. (1981). *Assessing affective characteristics in the schools*. Boston: Allyn and Bacon.

   Anderson provides an excellent set of practical suggestions for the creation of affective assessment instruments. He includes one of the most easily understood expositions of various scaling procedures including Likert, Thurstone, and Guttman scales.

5. Bausell, R.B. (Ed.). *Evaluation and the health professions*. Newbury Park, CA: Sage.

   This quarterly publication deals with a variety of evaluation-relevant issues of interest to health educators.

6. Berk, R.A. (Ed.). (1982). *Handbook of methods for detecting test bias*. Baltimore: The Johns Hopkins University Press.

   This collection of individual essays offers the reader a comprehensive depiction of methods currently available to detect the presence of bias in tests.

7. Berk, R.A. (Ed.). (1984). *A guide to criterion-referenced test construction*. Baltimore: The Johns Hopkins University Press.

   This collection of essays consists of papers presented at the first Johns Hopkins University National Symposium on Educational Research. In addition, a number of more recently written chapters have been included in this revision of a 1980 text. The authors address many of the important problems, both conceptual and technical, facing developers and users of criterion-referenced measures.

8. Campbell, D.T., & Stanley, J.C. (1966). *Experimental and quasi-experimental designs for research*. Chicago: Rand McNally.

   This volume, originally a chapter in a larger volume, has had substantial impact on the fields of research and evaluation. Evaluators of health education programs will wish to consider this truly classic treatment of data-gathering designs suitable for experimental and quasi-experimental settings.

9. Churchill, G.A., Jr. (1979). *Marketing research: Methodological foundations* (2nd ed.). Hinsdale, IL: The Dryden Press.

   Although written in the context of marketing research, this textbook covers several topics of vital importance in evaluation. Topics such as research design, data collection, sampling, and data analysis are covered in a readily understandable yet accurate way. An excellent resource.

10. Cohen, J. (1977). *Statistical power analysis for the behavioral sciences* (rev. ed.). New York: Academic Press.

    Cohen offers a useful treatment of factors which should be considered when one draws samples for use in research or evaluation activities. Of special interest is the set of easy-to-use guidelines he offers for determining the estimated sample size necessary to detect differences between groups.

11. Cook, T.D., & Campbell, D.T. (1976). The design and conduct of quasi-experiments and true experiments in field settings. In M.D. Dunnette (Ed.), *Handbook of industrial and organizational psychology*. Chicago: Rand McNally.

    This is an updated version of the famous exposition of quasi-experimental and experimental data-gathering designs by Donald T. Campbell and Julian C. Stanley (see Reference No. 8). An excellent discussion of four types of validity is featured in this essay.

12. Cook, T.D., & Campbell, D.T. (1979). *Quasi-experimentation: Design and analysis issues for field settings*. Chicago: Rand McNally.

    This widely cited volume provides a comprehensive treatment of quasi-experimental investigations in settings of substantial relevance to the concerns of health educators. There are excellent discussions of internal and external validity, including the various threats to both types of validity. A systematic consideration of the commonly used data-gathering designs is offered, including an extended appraisal of interrupted time-series designs.

13. Cordray, D.S., Bloom, H.S., & Light, R.J. (Eds.). (1987, Summer). *Evaluation practice in review* (New Directions for Program Evaluation, No. 34). San Francisco: Jossey-Bass.

    This volume contains a set of thought-provoking chapters dealing with what has been learned about the practice of evaluation during the past decade. The chapters on evaluation politics by Eleanor Chelimsky and on naturalistic evaluation by Egon Guba would be of particular interest to evaluators of health education programs.

14. Cronbach, L.J. (1963). Course improvement through evaluation. *Teachers College Record*, *64*, 672-683.

    This article is an early piece, presenting the virtues of what would later be termed "formative" evaluation. It rings as true today as it did more than two decades ago, and it applies as much to evaluation in health education as it does to more traditional evaluation. Emphasizing the role of evaluation in gathering information that can improve programs, this article is well worth reading.

15. Cronbach, L.J. (1977). *Analysis of covariance in nonrandomized experiments: Parameters affecting bias*. Unpublished occasional paper, Stanford Evaluation Consortium, Stanford University.

    A highly technical piece on the complications associated with using analysis of covariance, this article is recommended only for those prepared to handle a critical data-analysis problem in a sophisticated way.

16. Cronbach, L.J., Ambron, S.R., Dornbusch, S.M., Hess, R.D., Hornik, R.C., Phillips, D.C., Walker, D.F., & Weiner, S.S. (1980). *Toward reform of program evaluation*. San Francisco: Jossey-Bass.

    This important book considers the function of evaluation in a pluralistic society and presents 95 theses on the role of evaluators and evaluations. In addition to providing a contemporary conception of evaluation, it provides a historical and multidisciplinary perspective of the field. This volume will be of considerable interest to those evaluating health education programs.

17. Cronbach, L.J., & Furby, L. (1970). How should we measure 'change'—or should we? *Psychological Bulletin*, *74*, 68-80.

    A technical treatise on the dangers associated with using gain scores. A very significant piece, but recommended only for those with some psychometric training.

18. Cunningham, G.K. (1986). *Educational and psychological measurement*. New York: Macmillan.

    This is a standard introductory text focusing on the major topics associated with measurement as it applies to such tasks as program evaluation.

19. Ebel, R.L. (1979). *Essentials of educational measurement* (3rd ed.). Englewood Cliffs, NJ: Prentice-Hall.

    This is a standard, easily read introductory text, covering important topics in the field of educational testing. Ebel, a prominent leader of traditional educational testing practices, provides a lucid treatment of a wide range of measurement topics.

20. Fetterman, D.M., & Pitman, M.A. (Eds.). (1986). *Educational evaluation: Ethnography in theory, practice, and politics*. Beverly Hills, CA: Sage.

This collection of essays touches on ethnographically oriented evaluation of educational programs. Health educators wishing to learn about this recently emphasized approach to educational evaluation will find this volume of interest.

21. Green, L.W. (1979). Research methods translatable to the practice setting: From rigor to reality and back. In S.J. Cohen (Ed.), *New directions in patient compliance* (pp.141-151). Lexington, MA: Lexington Books.

Green attends to a practical dilemma facing those who evaluate health education programs, namely, the necessity to make trade-offs between validity and feasibility in field settings. Six strategies for coping with evaluation under adverse circumstances are described.

22. Green, L.W., & Figa-Talamanca, I. (1974). Suggested designs for evaluation of patient education programs. *Health Education Monographs, 2* (1), 54-71.

In this essay Green and Figa-Talamanca suggest data-gathering designs for conducting evaluations of patient education programs. The authors also explore several issues related to evaluations of this variety.

23. Green, L.W., & Lewis, F.M. (1986). *Measurement and evaluation in health education and health promotion*. Palo Alto, CA: Mayfield.

This volume is an excellent resource for health educators concerned with the evaluation of their programs. Green and Lewis provide a series of useful explanations of topics in both measurement and health evaluation. Their expositions are peppered with practical examples drawn from health education and health promotion.

24. Hambleton, R.K., Swaminathan, H., Algina, J., & Coulson, D.B. (1978). Criterion-referenced testing and measurement: A review of technical issues and development. *Review of Educational Research, 48* (1), 1-48.

This is a comprehensive review of the field of criterion-referenced testing. Hambleton and his colleagues do a masterful job of isolating the key issues in criterion-referenced testing and describing results of research investigations bearing on those issues. Somewhat technical at times, this review is one of the more widely cited essays dealing with criterion-referenced testing.

25. Hays, W.L. (1973). *Statistics for the social sciences*. New York: Holt, Rinehart, and Winston.

This comprehensive text handles basic and advanced statistical considerations. Somewhat technical at points, Hays nonetheless provides an excellent set of step-by-step guidelines to statistical practice.

26. Joint Committee on Standards for Educational Evaluation. (1981). *Standards for evaluations of educational programs, projects, and materials.* New York: McGraw-Hill.

The development of these evaluation standards was spearheaded by a joint committee of the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education. Thirty standards are presented, addressing issues related to deciding whether to evaluate, defining the evaluation problem, designing the evaluation, budgeting for the evaluation, collecting and analyzing data, and reporting the evaluation. Intended for both consumers of evaluation and individuals conducting evaluations, this reference may be of most use to evaluators who are relatively new to the field.

27. Kubiszyn, T., & Borich, G. (1987). *Educational testing and measurement: Classroom application and practice* (2nd ed.). Glenview, IL: Scott-Foresman.

Another introductory text dealing with the nuts and bolts of measurement, this book will provide health educators with a good overview of educational measurement.

28. Levin, H.M. (1975). Cost-effectiveness analysis in evaluation research. In M. Guttentag & E.L. Struening (Eds.), *Handbook of evaluation research* (Vol. 2, pp. 89-122). Beverly Hills, CA: Sage.

This essay probes the important considerations involved in determining cost-effectiveness of programs in the context of educational evaluations. Theoretical as well as practical guidelines are provided.

29. Levin, H.M. (1983). *Cost-effectiveness: A primer* (New Perspectives in Evaluation, Vol. 4). Beverly Hills, CA: Sage.

This text is a splendid introduction to the fundamental concepts of cost analysis on program evaluation. Levin provides succinct descriptions along with advantages and disadvantages for cost-feasibility, cost-effectiveness, cost-benefit, and cost-utility analyses.

30. Linn, R.L., & Slinde, J.A. (1977). The determination of the significance of change between pre- and posttesting periods. *Review of Educational Research, 47*, 121-150.

This article reviews many of the major issues in the measurement of change from pretesting to posttesting periods and suggests possible alternatives. These authors share the general sentiment of many others in the field that "more is expected from gain scores than they can reasonably be expected to provide."

31. Lord, F.H. (1963). Elementary models for measuring change. In C.W. Harris (Ed.), *Problems in measuring change* (pp. 21-38). Madison: Wisconsin Press.

This is an early treatise on the problems associated with measuring change. Although this chapter rapidly becomes very technical, the early sections provide an intuitive explanation of the difficulties with using gain scores.

32. Mark, M.M., & Shotland, R.L. (Eds.). (1987, Fall). *Multiple methods in program evaluation* (New Directions for Program Evaluation, No. 35). San Francisco: Jossey-Bass.

    Decrying the infrequency with which multiple methods are used in program evaluation, six chapters are offered in this volume, not only advocating multiple methods, but also describing how such program evaluations can be conducted.

33. Oakland, T. (Ed.). (1977). *Psychological and educational assessment of minority children.* New York: Brunner/Mazel.

    This collection of essays provides a series of useful suggestions for those who are more sensitive to the possible bias present in educational tests.

34. Popham, W.J. (1981). *Modern educational measurement.* Englewood Cliffs, NJ: Prentice-Hall.

    Varied topics in the field of educational measurement are introduced in this text. Norm-referenced measurement and criterion-referenced measurement are both considered, with the special applications of criterion-referenced assessment emphasized. Chapters on the relationship of testing to teaching and the measurement of affect will be of special interest to health educators.

35. Popham, W.J. (1988). *Educational evaluation.* Englewood Cliffs, NJ: Prentice-Hall.

    This is an introductory text, written in fairly nontechnical language, about the field of educational evaluation. Evaluators of health education programs will find it simple to translate the book's contents to their own specialties.

36. Popham, W.J., & Sirotnik, K.A. (1973). *Educational statistics: Use and interpretation* (2nd ed.). New York: Harper and Row.

    This easily read introductory text deals with the fundamental types of statistical considerations needed by program evaluators. It is intended for those who are not particularly comfortable with mathematical approaches to statistics.

37. Riecken, H.W., & Boruch, R.F. (1971). *Social experimentation: A method for planning and evaluating social intervention*. New York: Academic Press.

    This is a significant contribution to our thinking about large-scale social interventions, their design and appraisal. It provides a useful analysis of the ways that the experimental method can be defensibly employed in connection with major social programs.

38. Rivlin, A.M., & Timpane, P.M. (Eds.). (1975). *Ethical and legal issues in social experimentation*. Washington, DC: Brookings Institution.

    Rivlin and Timpane explore the sorts of legal and ethical issues to which evaluators of health education programs must attend.

39. *SPSS-X User's Guide* (3rd ed.). (1988). Chicago: SPSS Inc.

    This is a widely used, well-organized set of "canned" computer analysis programs for use in the social sciences. Health educators who have occasion to use computer analyses will find the SPSS manual most helpful.

40. Salvia, J., & Ysseldyke, J.E. (1981). *Assessment in special and remedial education* (2nd ed.). Boston: Houghton Mifflin.

This text, intended for individuals who must apply assessment to special education and remedial education, provides measurement insights for health educators who deal with such populations of learners.

41. Scriven, M. (1967). The methodology of evaluation. In R.W. Tyler, R.M. Gagné, & M. Scriven (Eds.). *Perspectives of curriculum evaluation* (pp. 39-83). Chicago: Rand McNally.

This seminal article was the first essay in which Scriven distinguished between the now commonly accepted formative and summative roles of evaluators. Scriven addresses a wide variety of topics, emphasizing the importance of comparative appraisals of two or more programs' merits.

42. Scriven, M. (1972). Prose and cons about goal-free evaluation. *Evaluation Comment, 3*, 1-4.

In this essay Scriven offers goal-free evaluation as an antidote to excessive preoccupation with the program staff's expressed objectives. Scriven argues that evaluators should attend to the results produced by a program, not the rhetoric of its program goals.

43. Siegel, S. (1956). *Nonparametric statistics for the behavioral sciences.* New York: McGraw-Hill.

This is the classic treatment of nonparametric statistical techniques. Although a bit out of date these days, Siegel's text offers the most easily understood treatment of nonparametric statistical procedures. Because of the author's admitted zealousness in support of nonparametric techniques, those using Siegel's text should also consult a critique of it by Robert Savage, *Journal of American Statistical Association*, 1957, *52*, 331-344.

44. Suchman, E.A. (1967). *Evaluative research: Principles and practice in public service and social action programs.* New York: Russell Sage Foundation.

In this volume, Suchman provides extensive coverage of the application of the experimental research model in conducting evaluations. Although evaluation has come a long way since this book was written, the volume provides a clear description of the predominant conceptualization of evaluation in the past decade.

45. Tukey, J.W. (1977). *Exploratory data analyses.* Reading, MA: Addison-Wesley.

Creative approaches to displaying and understanding data are provided by Tukey in this excellent demystification of data analysis.

46. Walberg, H.J., Postlethwaite, T.N., Creemers, B.P.M., & de Court, E. (Eds.). (1987). Educational evaluation: The state of the field. *International Journal of Educational Research, 11* (1).

This special issue, as its title suggests, presents comprehensive review of field of program evaluation from authors based in the U.S. and abroad.

47. Webb, E.J., Campbell, D.T., Schwartz, R.D., Sechrest, L., & Grove, J.B. (1981). *Nonreactive measures in the social sciences* (2nd ed.). Dallas: Houghton Mifflin.

This charming volume provides readers with a series of powerful and clever tactics to secure data, particularly of an affective nature, without sensitizing respondents to the evaluator's purposes.

48. Weiss, C.H. (1972). *Evaluation research: Methods of assessing program effectiveness.* Englewood Cliffs, NJ: Prentice-Hall.

Weiss offers a pithy overview of prominent program evaluation considerations including the formulation of questions to be addressed, the design of the evaluation study, and the utilization of evaluation results. A paperback, this brief book (160 pp.) offers an excellent introduction to what Weiss refers to as "evaluation research."

49. Windsor, R.A., Baranowski, T., Clark, N., & Cutter, G. (1984). *Evaluation of health promotion and education programs.* Palo Alto, CA: Mayfield.

This text is a useful introduction to the evaluation of health education programs. Windsor et al. have provided readers with a series of health-relevant examples to illustrate their explorations.

50. Worthen, B.R., & Sanders, J.R. (Eds.). (1973). *Educational evaluation: Theory and practice*. Worthington, OH: C.A. Jones.

This volume was one of the earliest compilations of various program evaluation models applied to education. Evaluation theorists whose views are presented in this book include Stake, Cronbach, Scriven, Tyler and others. Worthen and Sanders have authored sections of the book and have included a series of original chapters by a number of evaluation specialists. While focused on educational evaluation in general, the volume is of substantial relevance to program evaluation of health education programs.

51. Worthen, B.R., & Sanders, J.R. (1987). *Educational evaluation: Alternative approaches and practical guidelines.* New York: Longman.

This introductory text is organized around a series of alternative approaches to educational evaluation, including the "objectives-oriented" and "advisory-oriented" approaches.

52. Worthen, B.R., & White, K.R. (1987). *Evaluating educational and social programs: Guidelines for proposal review, onsite evaluation, evaluation contracts, and technical assistance.* Boston: Kluwer-Nijhoff.

This volume provides a first-rate series of practical guidelines dealing with varied aspects of proposal review, onsite evaluation, evaluation contracts, and technical assistance.

53. Zdep, S.M., & Rhodes, I.N. (1977). Making the randomized response technique work. *The Public Opinion Quarterly, 40,* 531-537.

This easily read essay describes the randomized response technique, a procedure used to obtain sensitive information from respondents more accurately than if respondents were directly asked about sensitive information.